

Virginia  
July 1977 50¢ Wildlife



# Virginia Wildlife

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Dedicated to the Conservation of Virginia's  
Wildlife and Related Natural Resources

COMMONWEALTH OF VIRGINIA  
MILLS E. GODWIN, JR., GOVERNOR

Commission of Game and Inland Fisheries

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# Editorial

## BLAME IT ON THE HARDWARE

When the fish don't bite we blame the lure, or the line that wouldn't let us cast exactly to the mark, or the trolling motor that wouldn't hold the boat straight in the wind. When the big buck bounds away after our fusillade it was the gun or that no good scope that caused us to miss. If only we had a better boat, a different caliber gun or a new 4-wheel drive we could come home with game every trip.

We tend to blame many of the general problems in the outdoors on the hardware as well. Those motor homes have ruined camping. Trail bikes, ATV's and 4-wheel drives pop up everywhere. Compound bows destroy the romance of bowhunting. CB radios bring out the worst in hunters. Those fancy bass boats and their depth finders have ruined fishing. How many

times have you heard remarks like this or even uttered them yourself?

A saint or a hooligan could use any of the above equally well so the overall impact depends on the user, not on the hardware. It seems easier to legislate or regulate things than people. After all, things have no civil rights. Gun control legislation is a perfect example.

If we are going to make our outdoors a better place we need to look beyond the hardware to the people who are misusing it and find a way to deal with them. Technology sometimes moves so fast that it thrusts upon us hardware we do not yet know how to use, but the period of adjustment is usually short. Improper conduct runs deeper than the temptation provided by new equipment. —HLG

## Letters

### BRAVO! ENCORE!

We of the Florida Wildlife Sanctuary, thoroughly enjoy your publications. We are the first wildlife hospital in the nation open 24 hours a day. We also serve as an environmental clearing house to answer questions on any living creature for various organizations.

We would like to compliment you on your magazine and its beautiful stories to better educate the public, especially the young people, as well as some of the beautiful pictures that are shown on wildlife in its natural habitat.

Carlton O. Teate  
Melbourne, Florida

### YOU CAN'T ROLLERSKATE IN A BUFFALO HERD

After reading in John Beard's article in the June issue, "A Bit of Africa In Virginia," about being charged by a rhino in Virginia, I hesitate to relate my tall tale. One night some of us went coon hunting in Charles City County. The fog moved in and we became quite lost. Suddenly the fog lifted and we found ourselves in the midst of a herd of cows with at least one mean looking bull and all sporting very sharp horns. As we looked for an escape route we saw nothing but acres of saplings. Fortunately they were more curious than aggressive.

Clinton Atkinson  
Richmond

### HANG IT UP!

If you liked the June 1977 cover of Ralph J. McDonald's "Hummingbirds and Trumpet Flowers," you might be interested to know that this print is available in a set of four entitled THE FOUR SEASONS PORTFOLIO.

The portfolio includes the "Rufous-sided Towhee" in winter, "Whitetail Fawn and Tiger Swallowtail" in spring, Ruby-throated hummingbird" in summer and "Fox Squirrel" in fall.

Ralph J. McDonald's limited edition wildlife prints are available by contacting "The Countryside Studio," 145 College Street, Gallatin, Tennessee 37066, or by contacting your local art dealer. The set of four prints retails for \$45.00.

### FATHER KNOWS BEST

My brother and I would like two copies of the June 1977 issue of *Virginia Wildlife* magazine because our daddy won't let us have his.

Bradford C. Ely  
Midlothian

*Daddy should share, but I'll bet you guys want to work on it with the scissors. So here is your personal copy. —Ed.*

### CLOSING IN

I read in the Washington Post where Governor Godwin closed another Virginia river, The South Fork of the Shenandoah to the taking of fish. How about an indepth

article or articles in your magazine giving the low down on pollution in Virginia, how it is affecting the sportsman and what is being done about it.

Robert Simpson  
Arlington

*We'll see what we can do! —Ed.*

### JUDGE FOR YOURSELF

An ardent pursuer of meleagris gallopavo, April 16, found me on leased property in King William County trying to out trail a wily gobbler. A poacher swooped in, shot the bird I was "working" and made a rapid escape. Later in the season another bird I was coaxing was ambushed 80 yards from me. This time I was able to find and confront the interloper. He was quick to plead lost although his nearby pickup had circumvented a chain gate and a gauntlet of poster signs.

I swore out a warrant for trespassing and the game warden added the charges of not tagging the bird. In court he pleaded guilty to trespassing and received a fine of \$50, suspended, while the tagging charge was dropped because he had not yet reached his truck. How the honest sportsmen can ever clean up hunting when the courts take this attitude, I don't know!

Lane Ervin  
Richmond

*Anything short of market hunting is still viewed lightly in many Virginia Courts. —Ed.*

# Wading For Bass



*Illustration by Charles Luch*

By PETE ELKINS

I knew they were in there. Late on summer evenings I had seen the soft, heavy swirls of big bass feeding in the tangled brush and limbs. Bream fishermen talked of big green fish that broke their lines. But the farm pond was laced with thick willows and brush. An old barbed wire fence wound its rusty way halfway through the muddy water.

There were many other fishing spots much easier to reach, yet the overgrown ponds intrigued me. Finally, I decided that the only way to catch these bass, if bass they were, was to meet them on their level, wet as it might be.

Wade fishing isn't widely practiced in Virginia's largemouth country, since most of our bass waters are large impoundments with relatively clear, deep water. However, in many places throughout the south, wade fishing is a supreme art. For example, each spring bass

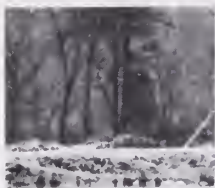
anglers throughout the nation pilgrimage to South Carolina's Santee-Cooper, where the famed Russelville Flats offer acres and acres of brush and bass-filled waters for the wading practitioner.

Like most Virginia anglers, the Russelville Flats were a bit exotic for my budget at that particular time. The pond was a mini-Russelville, where I could at least savor the aroma even if I couldn't taste the wine.

The chest waders were hot in the sunshine, but felt awkwardly good. Glancing once at the thick, muddy water, I slipped on a comfortable Sans Souci life vest. There's scant glory in drowning while fishing a muddy farm pond.

Lure selection was simplified by the muddy water. Visibility under the surface was in terms of inches at best. Spinnerbaits, the brighter the better, should be the ticket. If the bass couldn't see the lure, then I would make sure that they heard it or felt it or whatever the delicate lateral line enables a *Micropterus* to do.





*Joining them is the way to beat them when fishing in a muddy farm pond.*

*There is something about "getting in there with them" that adds an entirely new dimension to bass fishing.*

I knotted a yellow Fleck spinnerbait with tandem copper blades to 14-pound monofilament. I crammed a few more chartreuse and yellow models into my pocket, reasoning that the tandem blades, designed to go bump in the murk, should stimulate the connected series of receptors on the side of the bass. These ciliated celled receptor pores are sensitive to intermediate vibrations or low-frequency water movements. The

twin blades glinted in the sun. I spun the blades with a flick of my index finger. They sounded sufficiently low-frequency. Reassured, I took the plunge.

The bottom was mucky, grasping in a disquieting way at my feet as I attempted what stealth the muck permitted. Protruding brush was everywhere. Here and there hammocks of grass thrust above the water. A few relatively clear channels ran for short distances through the trees and brush.

I pushed the free spool button of the casting reel with the thumb of my left hand in a gesture that all bass fishermen do unconsciously. In the murky waters, short accurate casts seemed appropriate. Nothing happened for the first few casts. After the fourth cast, I reengaged the reel by turning the oversided handles forward. The reel clicked into gear with a solid thump reminiscent of the satisfying quality of a Browning automatic shotgun's action.

I reeled just fast enough to produce a distinct throbbing thump-thump-thump in the graphite rod tip. Suddenly, just as I prepared to pick up for another cast, the water boiled less than three feet away. A miss! Instinctively, I flipped the spinnerbait underhanded just beyond the boil. The bass struck before the lure had moved a foot.

He wasn't a big bass, but waist-deep in his world as I was, he was most satisfactory. All one-and-a-half pounds of him cascaded skywards, showering me in the process. After two pretty jumps, he surrendered.

The spinnerbait's single hook made releasing the bass an easily accomplished task. I held him by the lower jaw beside my waders, then as I lifted my thumb, he whirled, disappearing in a greenish gold whorl of stained water.

Casting was a challenge in the brush. The spinnerbait would snake out toward the reaching limbs and brush, then drop under and along side them--sometimes. Sometimes, the limb's reach equalled their grasp. Fortunately, like a good spinnerbait, the Fleck fell free in response to a controlled flick of the rod tip.

The bass were holding tightly to the brush. Sometimes strikes would come as angry swirls adjacent to the brush. Some strikes were throbbing encounters a foot below the surface. Whenever the strikes came, the





ultra-sensitive graphite rod was perfectly attuned to the action. Every change, no matter how slight, in the rhythm of the spinning blades was telegraphed through the gray, spiral fibers.

Many bass missed the hook as they homed in on the vibrating disturbance. Apparently, some struck at the overhead blades or even hit the lure from the front or side. But in the relatively shallow water, the hits would have been excitement enough. After an hour or so of cautious waiting, more than a dozen healthy largemouth in the one to three-pound bracket had been hooked and released for another encounter.

The close quarters fighting was superb. When I was teetering in water lapping at the top of the waders, the bass would literally jump well above my head. Seen from below, a largemouth's classic leap is doubly exciting. Often violent, lastditch flurry within arms' reach would drench me so that I wished for miniature windshield wipers on my polaroid sunglasses.

Despite the satisfying action, no big fish had yet shown. Finally, in storybook fashion, I made what was intended to be the "last cast."

Casting beyond a yard-square tangle of flooded brush, I gurgled the big spinnerbait back along the surface. When the copper blades nicked the outer edge of the brush, I "killed" the spinnerbait, allowing it to flutter bottomwards for a long count of 1-2-3. At "3," I jerked the lure back into life. At that precise instant I almost lost the rod and reel! Responding to the hook, the bass came up in a washtub swirl of muddy water. "Easy, go easy," I cautioned myself.

The largemouth bolted toward the brush. I laid a hesitant thumb heavily on the turning spool, pushed down, felt the rod bend even farther toward the water, listened to the keen whistle of the monofilament stretching toward the bigmouth. The moment stretched with the line. The bass slowed, then stopped, inches away from the brushy refuge.

As the fish swung sideways on a new course, I lifted my thumb and let the drag resume its work. The dramatics were over except for one stirring jump which made me yearn for a high-speed camera rather than a rod. Although not yet beaten, the bass swam within

*The neglected sport of wade fishing in Virginia is worth the effort.*



range, and I grabbed for the lower jaw. Tired and slowed by the energy-draining jump, the largemouth allowed me to lift him free of the water.

He was heavy in the way that only a chunky bass can be heavy, colors subdued somewhat by the murky water, but still a handsome fish. I guessed his weight at about eight pounds.

I held him up high after removing the hook. "Okay. So it's a muddy farm pond, not the cypress-studded Russellville Flats. But the bass doesn't care about the difference." I decided that I didn't either.

When I held him in the water, his muscular caudal swung several times as if testing for confinement. I released him. He remained motionless for 10 long seconds. Only a swirl marked his passage as the massive caudal swept once, carrying him beyond sight into the murk. It seemed an appropriate time to call it quits.

Wade fishing is a neglected sport in Virginia, except for river smallmouth anglers. Yet there are countless farm ponds and brushy lake coves that can best be fished by a stealthy wader. There's something about getting in there with them that adds an entirely new dimension to bass fishing.

Kerr Reservoir immediately comes to mind, particularly when the bass are spawning in the spring. On many occasions, I've spooked bass that zipped away, leaving an impressive wake in their path as I tried to maneuver my boat into good casting position. Had I been wading, the wakes would have been equally impressive, but the odds are good that the wakes would be towing taut monofilament.

Of course, safety is a paramount consideration for wade fishermen. A life preserver like the sans souci, which doesn't restrict free movement is a nice insurance policy. In a place like Kerr, some of the new plastic foam or innertube floats with a seat harness would be ideal.

Chest high waders with a belt around the waist are nice during the colder water periods of early spring and fall. Wading "wet," that is without waders, is much more comfortable during the hot months.

Cautious anglers will also keep an eye out for snakes, a remote but possible danger in Virginia's southern and southeastern waters where cottonmouths range.

Lures for wade fishermen are no different than for any other form of bass angling. However, if you can carry only a few lures while wading, make sure that you include some spinnerbaits in yellow and chartreuse, particularly in murky water. The thumping lures will take bass from water that looks better adapted to plowing than fishing.

As anyone who has fished for a number of years will readily admit, the joy of fishing is largely based on anticipation and choice of angling approach. There is nothing in fishdom that I anticipate more eagerly than approaching largemouth bass through the trees and into the water.

# How To Behave Around Bears

By MARY L. MEYER

**T**he campground has settled down for the night when suddenly everyone is awakened by a great clamor. As the clatter continues, flickering flashlights outside the tent begin to probe the darkness.

The metallic clanging of garbage cans stops only to resume minutes later closer to your tent than before. Now the rattle is accompanied by low guttural rumblings. In your tent, you are feeling extremely insecure with only a thin piece of canvas protecting you from these late night visitors. You recall childhood stories of being eaten by animals and consider crawling into the safety of your car.

While your mind ponders the possibilities, a camper with a flashlight shouts the identity of the intruders to the other outdoorsmen. "Bears!"

Although this scene occurs frequently during the year in campgrounds, rarely do bears cause any bodily harm to campers. Yet there are stories of incidents like the two young women who were tenting in an isolated mountain meadow when, for apparently no reason, they were attacked and mauled by bears.

Bears have a natural fear of people. Over the years bears getting handouts have lost their fear until now they actually seek food from people. In this way people have brought about their own bear problems.

There have been cases of bears begging food all summer until they are totally dependent on people. And yet it is the bears who suffer in the long run. When autumn arrives they should be developing a fat layer under their fur by eating wild foods for the cold months ahead; instead, these bears still wait by the roadside for tourists. Eventually they starve to death during the winter.

Bears forage around campgrounds to satisfy their basic need to eat. They are omnivorous, that is, they eat almost anything, meats as well as plant foods. To them garbage cans contain all sorts of goodies.

Unless you wish to be awakened in the middle of the night by rumbling bears and rattling trash cans, do not set up a tent next to the garbage dump. The farther away you can get, the better off you will be.

Curious creatures that they are, bears are not interested in ripping into a tent full of people unless they smell food there. Therefore, never keep food in your tent. This precaution will not only keep bears out but also skunks, raccoons and other smaller animals.

Try not to put temptation in a bear's way. The bear's keenest sense is that of smell. Once it has decided it's



*Illustrated by Diane Grant.*

found food, a 350-pound bear can pry its way into almost anything. This means anything left around a campsite is in jeopardy, especially ice chests. Bears live from 15 to 25 years and some of the older ones have learned all the tricks. So until the makers of camping equipment design a bearproof container, lock ice chests in the pickup or car trunk.

If the thought of bears getting in your tent sincerely bothers you, keep a few mothballs in your tent — animals tend to shun the odor.

On the trail, a run-in with a bear presents different problems. Like all animals (man included) bears create an invisible territory around them wherever they are.

If a hiker should happen to stumble into a bear's territory without detection, one of two things will happen. (1) When the bear hears the person coming he will usually run the other way for wild bears are by nature timid animals. Or (2) the bear might still not hear the person, in which case the hiker should slowly increase the distance between himself and the animal.

Although bears have an excellent sense of smell, they have poor eyesight. Because they are very nearsighted, a bear could not identify a form more than 100 yards away as that of a human. When it notices movement it will often stand up and try to pick up a scent. If the person is downwind from the bear he may go unnoticed.

Rangers at Shenandoah National Park suggest tying some bells on your shoes as the best protection against unintentionally meeting a bear when hiking. The inexpensive "jingle bell" type that can be purchased at



any variety store are excellent. Wearing bells will not prevent the hiker from enjoying the bears from a safe distance, but the bells will warn bears that might be alarmed by the closeness of humans. But what if all else

and dogs do. Actually bears are anything but clumsy. They can run rapidly for short distances over any kind of terrain and climb trees gracefully. Unless you're an Olympic runner, it is foolish to think you can outrun a bear.

People often have the notion that winter camping and hiking eliminates the problems with bears altogether. This is not so because bears do not hibernate in the true sense of the word. In true hibernation, all the animal's body processes, respiration, heart rate, etc. slow down markedly. Bears do find themselves a protected place, usually a cave, hollow tree, or hole they have dug in the ground, and sleep — but not through the entire winter.

When the weather is relatively pleasant outside, the bears venture out to find what food there is. It is during these lazy winter months that the cubs are born. Toothless and blind at birth, the newborns need the winter months to grow strong on mother's milk before the summer of rummaging through the woods.

What should you do if you do find yourself in a predicament involving a bear? Don't tease them. Don't feed them. Don't in anyway encourage them.

If they have gotten into your campsite, don't try to chase them away. Let them do what they want — the risk involved is not worth the potential threat to yourself or the ruined piece of equipment you might save.

Leave the bears alone. Don't try to sneak close enough for a good picture. If the bears don't leave, then you should be the one to go.

Above all, remember bears are wild, dangerous animals and they should be left that way without any intrusions from man.



*Wearing bells gives bears advance warning of your approach.*

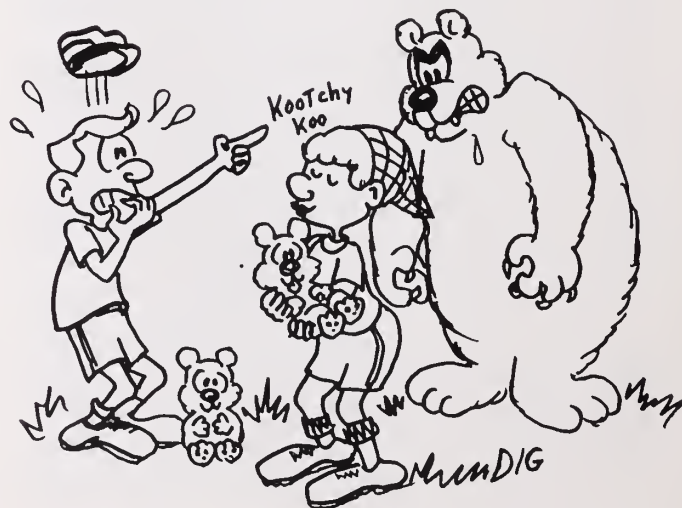
fails and you do encounter a bear or bears unexpectedly? In the case of a young couple camping in the back country of Colorado, after a morning hike they returned to camp to find two bear cubs rollicking on their collapsed tent while the mother bear was clawing her way into a loaf of bread left on the picnic table. Fortunately, the campers spotted their visitors before they got too close. The bears soon tired of the surroundings and moved on. After their departure, there was only the mess to clean up.

The couple was wise to let the bears do as they pleased because special care must be exercised when a mother with cubs wanders onto the trail or into camp.

Female bears are very protective of their young. Cubs stay with their mothers until they are two years old. During that time the mother bear may misunderstand any advances toward her offspring as threatening and take action to increase the distance between her family and the intruder. Stay clear of bears with cubs — mother bears can be vicious.

Don't let appearances fool you. That clumsy, lumbering gait bears have results from walking on the flat soles of their feet instead of on their toes like cats

*Female bears are very protective of their cubs.*





# Resurrecting The Chestnut

By PAUL H. BRATTON, JR.

Like the extinction of the passenger pigeon and the near extinction of the buffalo, the story of the chestnut blight is one of the great American tragedies. Before the blight the American chestnut dominated the eastern deciduous forest over much of its range. Native wildlife had long depended on the steady supply of nuts and man had learned to depend on the tree for straight-grained, decay-resistant wood in addition to the abundant, sweet nuts.

It was 1904 when the blight was first discovered in the United States. Within four decades of the initial infection in New York the blight swept through the eastern forests leaving only dead snags where chestnuts once stood.

Most dead and dying chestnuts were harvested to salvage their lumber. In isolated spots they were sometimes just cut and left on the forest floor to open space for other trees. But on a few mountain ridges the bare, gray skeletons of chestnuts still stand, resisting the decay that will eventually topple them and obliterate the last physical trace of the chestnut forests.

One summer night I camped on a mountain in the southern Appalachians where the chestnuts, some up to four feet in diameter, had been left alone to meet their end. As evening descended on the mountain-side, one ghostly chestnut snag absorbed the last threads of sunlight and for a few minutes seemed more alive than the oaks that had replaced it. In the deepening darkness I placed a fallen

chestnut limb on my campfire. The well-seasoned wood burned brightly, not begrudging me for the disaster mankind had caused it, as it spread a light from the last days of the great chestnut forests about the clearing.

Today many native plants are threatened, but the case of the chestnut is unique. Though reduced to a stunted and diseased shrub, it is still common. The chestnut's characteristic of sprouting from old root systems saved it from extinction while dooming it to live on in a distorted reflection of its former dominance.

Man has searched for ways to save the chestnut since he inadvertently introduced the blight to North America. The research money is scarce and today there is no center of chestnut research, but scattered throughout the range of the chestnut are groups and individuals still working to save the tree.

One place where the work continues is located in Nelson County, Virginia on the eastern slope of the Blue Ridge Mountains. At the Lesesne

State Forest  
the Virginia Division of Forestry



Virginia's largest surviving chestnut tree in Nelson County.





Left: Old chestnut cabin in Augusta County. Right: Cluster of disease-stricken chestnuts. (Photo by H.L. Gillam)

has developed one of the largest plots devoted to chestnut research in the United States.

One tract visible from the winding gravel road contains 3,000 native chestnuts ranging from sprouts to 15-foot saplings. Before they were planted, Professor Ralph Singleton of the University of Virginia irradiated the seeds to produce mutations. There is hope that a mutated chestnut might develop a resistance to the blight. Irradiating the seeds has produced various resistant strains of small plants but with the chestnut the task is more difficult. It requires many years for a chestnut to reach a bearing age and it is then that the blight often strikes.

In the autumn of 1974 the irradiated trees bore their first crop of nuts but a walk between the rows reveals the rust colored pustules and splitting bark that indicates the blight has already stricken most of the trees. The nuts from the irradiated trees are collected and germinated at one of the Division of Forestry's nurseries. This second generation of irradiated chestnuts is transplanted when one year old, and will be allowed to mature and cross pollinate to produce the third generation.

Thomas Dierauf, Chief of Applied Research for the Virginia Division of Forestry, anticipates the earliest results from this program won't show up until at least the third generation.

In cooperation with Richard Jaynes of the Connecticut Agricultural Experiment Station, another tract at Lesesne State Forest is planted with over 10,000 hybrid chestnuts. These were produced by crossing the native chestnut with varieties of blight-resistant Asian chestnuts.

The chestnut blight fungus, *Endothia parasitica*, is a native of Asia, and the Chinese and Japanese chestnuts developed a genetic resistance to it over thousands of years. Since the Asian chestnuts don't produce the high quality timber and sweet nuts of the American tree, the theory is to combine the blight resistance of the Asian chestnut with the more desirable characteristics of the American chestnut.

There has been some success in producing hybrid chestnuts as the healthy appearance of the hybrid trees at Lesesne reveal. Researchers are particularly interested in about a hundred of the hybrids that show signs of developing the straight trunk desired in a timber tree.

Mutating native chestnuts with radiation and crossing American and Asian chestnuts are only two of the many paths being pursued by researchers in the United States.

In Europe scientists have discovered a hypo-virulent strain of the blight that converts the common blight into a form less deadly for the European chestnuts. Richard Jaynes is involved in research with the hypo-virulent strain at the Connecticut Agricultural Research Station. The early results are encouraging and may offer the best hope for saving the chestnut, but it is still too early to predict accurately what effect the hypo-virulent strain will have in North America.

Virginia's largest surviving chestnut is found in a cornfield only 20 miles from Lesesne State Forest. The spreading boughs and a trunk over three feet in diameter are an impressive sight today, though once chestnuts ranged up to 12 feet in diameter. Scattered dead limbs offer evidence of the blight's effect on the tree, but somehow it has survived.

This tree and the other individuals that survived the blight are the keys to one of the most promising areas of research. There is a theory that these trees could contain some genetic resistance. Since the chestnut is self-sterile and wind-pollinated, widely separated surviving trees seldom produce fertile nuts in the wild.

Attempts are being made to root cuttings from the trees that lived through the blight and develop a selective breeding program. Thomas Dierauf believes that this less glamorous path may be the most effective in the long run. Researchers in Virginia and other areas of the country are still searching for large, surviving chestnuts that could be used in a breeding program.

The American chestnut will not be brought back this year or next, but there is hope. The few chestnuts, diseased but unconquered, that survived the blight, and the root systems of the vanquished chestnut forests that are still viable offer evidence of the chestnut's tenacity.

This natural tenacity is matched by the persistence of researchers determined to save the chestnut. One day their combination might restore the American chestnut to its rightful place in the eastern forest and some future autumn will again see the forest floor littered with the spiny burs and sweet nuts of the American chestnut.



# A WILDERNESS PROPOSAL

## St. Mary's River

BY BOB BELTON

Ever hear of St. Marys River? Probably not, unless you live nearby in Augusta or Rockbridge county. Perhaps you visit this strong-flowing, crystal clear stream on an occasional trout fishing trip or hike its rugged trails. It sounds like a lot of other places in the National Forest system; however, St. Marys is different in some important ways. Located in the southeast corner of Augusta County, the St. Marys area is bordered by the Blue Ridge Parkway, Routes 56 and 698, the National Forest "Coal Road," and the Cold Spring-Bald Mountain Trail through the Big Levels Game Refuge. The prime feature is the majestic gorge of the St. Marys itself. Carved out of the quartzite rock which dominates the area, the splendor of this relatively small gorge is surprising and welcome. On the other hand, immense Cellar Mountain soars to 3660 feet. From atop Groah's Ridge to the south, the view of the Big Spy and Little Spy, Minebank and Cellar Mountains is no less than spectacular.

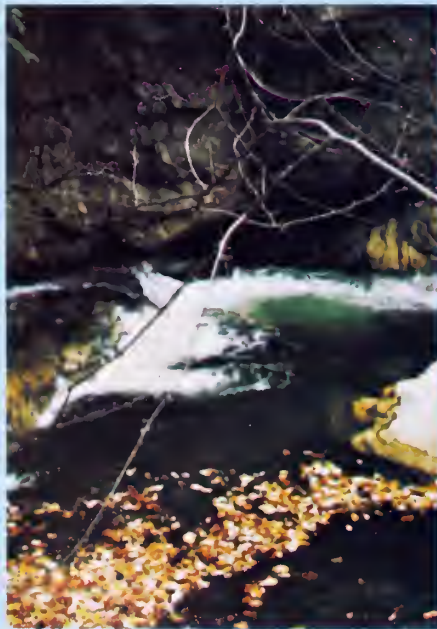
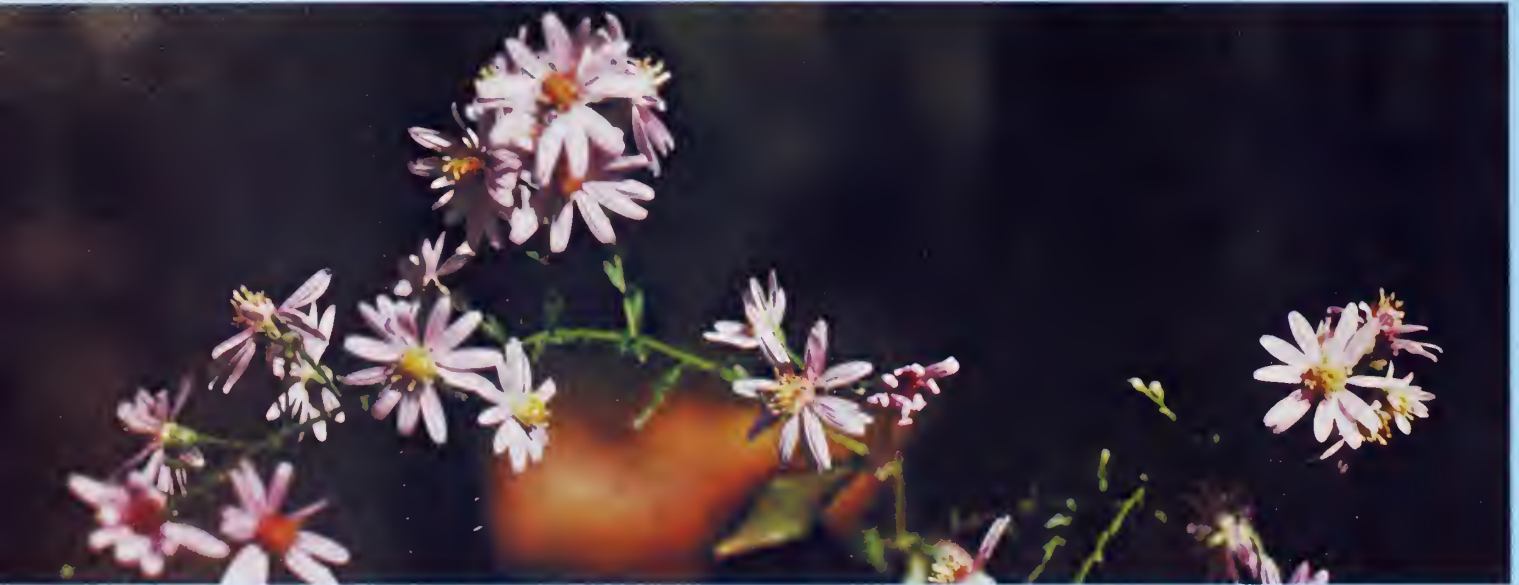
Throughout the area are wildflowers, shrubs and trees undisturbed for years. Paper birches, normally confined to more northern climates, occur in scattered locations. And there are acres of wild rugged woodland. In short, it's a wilderness and many of those, including the Virginia Wilderness Committee (VWC), who know and appreciate the St. Marys for its special blend of "natural conditions," are working toward designation of this section as a wilderness area as provided by the Wilderness Act of 1964.

Rocky, rugged, requiring rigorous physical exertion, this watershed can withstand no logging without much siltation. Further, because of its rough topography, it is an area where logging can scarcely be economical. Man's earlier brief attempts at mining coal, manganese and iron are being erased, bit-by-bit. You can see the few remains of a concrete bridge and a connecting railway. The mines themselves are visible. But these man-made works, while detracting from a totally wilderness experience, are being covered slowly by the ever-





expanding forest and pale to insignificance when considered against the whole of the approximately 10,000-acre St. Marys area. Vehicles are forbidden by federal regulation and metal signs announce this as a "pack out your trash" area. The Virginia Commission of Game and Inland Fisheries has designated St. Marys River a trout stream where only single, barbless hooks can be used and only trout over 10 inches may be creeled. This action is in response to calls from numerous fishermen for some streams in the state where trout



*Left: Quartzite cliffs--a backdrop for a clear, deep pool on St. Marys River. Colorful wildflowers (above) and painted leaves (below) provide recreational opportunities for photographers and sheer enjoyment for all nature lovers.*



will hopefully live under natural conditions and stocking as on other streams will not be practiced.

This is truly wild country. Remote and rugged enough to provide opportunities for solitude or a primitive type of recreation, it is of sufficient character, if challenged, to test your physical mettle and arouse enough fear to help you find out how much courage you possess. This is the home of rattlesnakes, copperheads, bear, turkey, deer, squirrel, grouse and numerous song birds, habitat of mirror-clear streams and native trout. St. Marys River is a place to be visited by those who truly appreciate its wildness and leave, softly, quietly, cleanly, with no trace of their sojourn, rejuvenated by contact with the world of nature at its best.

The necessary wilderness proposal will be presented to our Congressmen and Senators soon by the Virginia Wilderness Committee. If you want to participate in working for the proper legislation, contact the author at Rte 1, Box 167A, Afton, VA 22929, or Ernie Dickerman, President, Virginia Wilderness Committee, Rte 1, Box 156, Swoope, VA 24479. This is a project we want to complete successfully but quietly. The last thing we want is to insult the St. Marys area with undue publicity and resulting overexposure. To do so would negate the natural character of this fragile area and spoil its enjoyment for all who seek a true wilderness experience in the dwindling wild areas of the Eastern United States.



# Conservationgram



GAME COMMISSION WINS IN INTERNATIONAL AWARDS PROGRAM. The Virginia Commission of Game and Inland Fisheries' Education Division has been awarded a first place International Award by the American Association of Conservation Information for an "outstanding special information program." The informational effort by the Commission concerned boating safety on Smith Mountain Lake. In order to promote safety on the lake, the Commission used a multi-media approach which included posters, special boat inspection stickers, films, programs to interested groups at the lake, and personal appearances by game wardens. The A.A.C.I. also awarded a third place for "television program excellence" to the Commission's "All Outdoors" television program which airs on Channel 6 in Richmond. Produced by Lewis Brandt, Game Warden Education Supervisor for the Patrick Henry District, and Carl "Spike" Knuth, Commission Audio-Visual Supervisor, the program deals with a wide variety of Virginia outdoor activities. A third place for "radio program excellence" was also awarded the Commission for its series "Safe Boating Makes the Summer Last Longer." The Game Commission awards were presented at the A.A.C.I. annual meeting which this year was held in Louisiana.

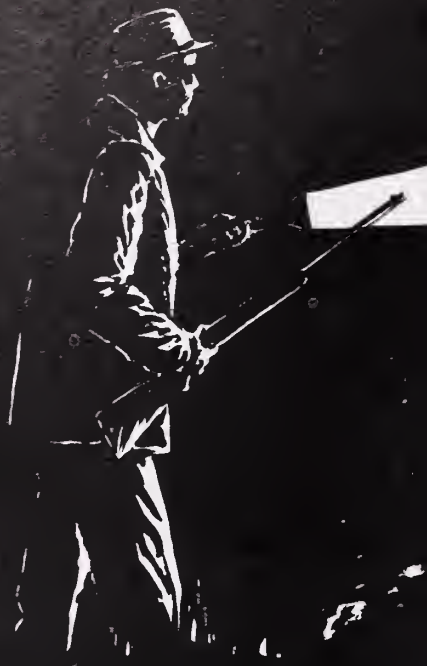
FISH SAID TO BE UNSAFE FROM SOME VIRGINIA WATERS. In an Emergency Rule dated June 6, 1977, the Virginia State Board of Health has prohibited the taking of fish for human consumption from the South River, South Fork of the Shenandoah and Shenandoah Rivers. The text of the emergency rule is as follows:

"Effective immediately, the catching or taking of fish by any means for the purpose of human consumption is prohibited in the South River from the footbridge at the E.I. duPont de Nemours and Company, Inc. Plant in the City of Waynesboro to its confluence with North River, thence in the South Fork of the Shenandoah River to its confluence with the North Fork of Shenandoah and thence in the Shenandoah River to the power dam in the vicinity of Front Royal until September 30, 1977. Fishing for fun in the above defined reaches of the South, South Fork of the Shenandoah, and Shenandoah Rivers is permissible."

Violation of this rule is a misdemeanor as set forth in Section 32-15 of the Code of Virginia (1950) as amended. Further information pertaining to this prohibition may be obtained through contact with the Commissioner of Health, Virginia State Department of Health, Room 400, James Madison Bldg, 109 Governor St, Richmond, VA 23219 or telephone number 804/786-3563.

DEER STUDY GROUP ISSUES CALL FOR PAPERS. Jack V. Gwynn, Game Biologist Supervisor for the Commission of Game and Inland Fisheries and Chairman of the Northeast Deer Study Group, has announced a joint meeting of the Northeast and Southeast Deer Study Groups in September at Fork Pickett, VA. This is the first time that the Northeast Study Group will be meeting in the Commonwealth since Virginia was transferred to the Northeast Region for Federal Aid and Administrative purposes. Gwynn stated that, "the theme of the meeting will be CURRENT AND FUTURE DEER HARVEST STRATEGIES." He also said that papers on other phases of Deer Management will be presented. The meeting is scheduled to be held at Fort Pickett near Blackstone, VA during the period September 6-8, 1977.

# ALPHA MAN



By ROBERT H. GILES, JR.

**T**heory of law violation can provide a basic order to acts of wildlife law violators; can form the basis for initiating research toward predicting individual or population behavior; open avenues for creative control methods; and help establish concepts of maximum or potential control.

There are several basic theories of law violations. Berne (1964) described violations as a game of "cops and robbers" as a transaction in social intercourse. The game of "cops and robbers" is the "poacher and warden" game in the wildlife sense, played only secondarily for material gain, but primarily for the thrill of the chase, the getaway, for the pleasure of telling tales and making boasts to peers. The suspense is real; there is always someone to play the game; people do get caught.

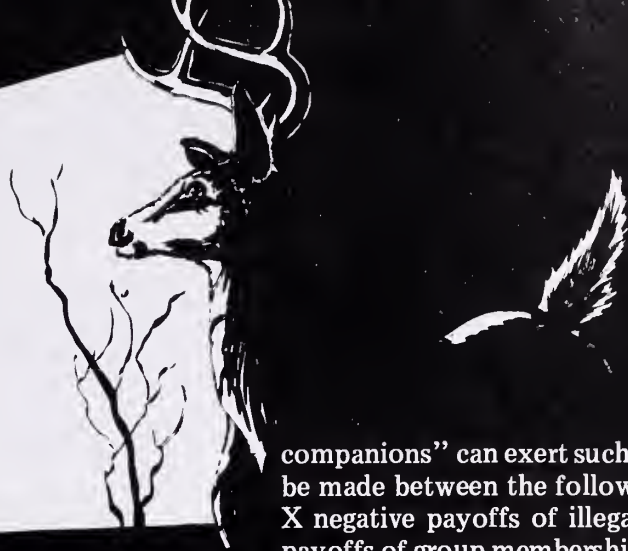
This analysis is useful in describing at least three types of poachers: the accidental violator, the game player who enjoys the game and needs to be caught to experience payoffs, and the compulsive or professional poacher who does not need to be caught and rarely is.

Another theory, the classic hedonistic causal theory of crime conceives a crime resulting when an individual calculates that the pleasures obtained from committing a crime exceed the pain or negative aspects of being apprehended and punished. "Pleasure" or "benefits" is the fundamental triggering mechanism.

A third theory, Sutherland's differential association theory has nine basic elements: (1) Criminal behavior is learned; (2) Criminal behavior is learned in interaction with other persons; (3) The principal part of the learning of criminal behavior occurs within intimate personal groups; (4) The learning includes techniques of committing the crimes and the specific direction of motives, drives, rationalizations and attitudes; (5) Specific direction of motives and drives are learned from definitions of the legal code as favorable or unfavorable; (6) A person becomes delinquent because of an excess of definitions favorable to violation of the law over those unfavorable to violation; (7) Differential associations may vary in frequency, duration, intensity and priority; (8) The process of learning criminal behavior involves all the mechanisms that are involved in any other learning process; and (9) While criminal behavior is an expression of general needs and values, noncriminal behavior is an expression of these same needs and values.

Deer spotlighting, for example, is not difficult to learn. Initiation is not required. It is done with several people and is likely to be very socio-economic-class specific. Drinking occurs in 33 percent of the situations in Virginia and relates to the attitude and social nature of the event. It is seen by many as a means to gain excitement in a relatively humdrum life. In family, social, or work groups, the desirability of violating game laws could easily exceed the undesirability of doing so. The latter is largely uncommunicated except through sportsmen magazines, not likely to be the reading matter of poachers.





Under this theory, a person becomes delinquent because he gets more encouragement for violating the law than discouragement. Even though he may poach alone, he violates the law as part of a group associated with criminal patterns and is isolated from anticriminal patterns.

I conclude that the previous three crime causation theories can be illuminated and unified under the concept of human homeostasis. Homeostasis can be defined as a stable state of equilibrium.

Man is not simply a criminal or not a criminal; he is human and dynamically fluctuates in concepts, life style, and individual acts. The limits of criminality are set socially. The same group of people with stable behavior can become criminal or not criminal overnight by a change in a law. There are those whose objectives are pleasure, money, recognition, or a host of other objectives. Multiple objectives are likely and people take action to achieve them. If their only known group of alternatives for achieving their objectives are classified as crimes, then it is likely these people will always be judged criminals, even if a few laws change. I call these "delta" people. It seems likely their performance pattern may be changed. Whether sufficient change can be made to exceed the criteria seems unlikely, but perhaps enough so that behaviors can be isolated and society protected from the undesirable ones.

The "beta" person lives a relatively homeostatic life, but due to the variance in certain performances which are not acceptable that have been induced culturally, parentally or stochastically, he violates the law. Whether he is apprehended or not reflects the coincidence of the agent and the violator. The poacher is probably a beta person, though there are undoubtedly delta people (e.g. market hunters). If there are 9000 spotlighting violations in a state of 4.5 million, the alpha people and beta people for this violation comprise 99.998 percent of the population.

Expectations are largely culturally imposed. They can be arrived at individually, from the media, or from peers. Peer pressures are analyzable in terms of personal energy required to achieve group homeostasis. "Evil

companions" can exert such pressure; the balance must be made between the following two possibilities: risks X negative payoffs of illegal acts; and risks X positive payoffs of group membership and acceptance.

The disparity between need and expectation is called frustration. It has a gradient. A person in extreme need of system input at his margin, might, with such needs, commit certain criminal acts that would not be committed under other conditions.

A lesser need combined with a relaxed or inefficient condition of the agent may result in the same decision among alternatives. Ignorant people have fewer alternatives than the informed; the alternatives are culturally (peer) imposed. (Certain groups would never appeal a conviction; certain others do not shoot firearms; others do not eat meat; some cannot or will not read; others would never consider asking an agent a question by phone.) "Ignorance is no excuse," but if reading or researching a problem is frowned upon by peers (a force as real as a member of the group removing a code book from a person's hands), then the code is not known and violations are likely.

Whether a person truly needs something or not is largely irrelevant; what he perceives that he needs at some time and place and the intensity of that need is what is relevant to the decision to act. All acts are assumed to follow decisions except in people in pathological states or under chemical influence.

There are law abiding citizens, "alpha" people, who do not make these decisions all of the time. They are rarely tempted. Their decision is performed not to commit crime if they can help it.

The above outline of theory provides a rational basis for crime, one consistent with observed criminal behavior and inclusive of the known crime causation theories. It provides a basis for analyzing acts, predicting performance, and designing systems to influence controllable variables or at least to explain changes that do and will occur no matter what investments are made in law enforcement agencies, court efficiencies or educational tools.

A theory of wildlife crime causation is fundamental to a quite different rational and comprehensive approach to controlling and reducing wildlife crime. Perhaps the theory will also be useful in dealing with other crime.



# The Pond

By CLAUDIUS W. GRIFFIN



Not really sure where we were headed, we crossed and recrossed a rocky creek, running with clear water just deep enough to get our feet wet. Then, following an old wagon trail through a bramble-studded cow-pasture, we finally came upon the barbed wire fence. Once over the fence, we found ourselves in a quiet little stand of pine on a path which meanders through the George Washington National Forest in Augusta County. Now that we were on public land, we stepped more boldly, conscious that we weren't taking a short-cut through a neighbor's pasture.

My boys and I probably wouldn't have been in the Forest that early summer day at all if we hadn't spent the last hour sitting in my Father's side yard, sweating and complaining that the bass and bluegill weren't hitting in nearby farm ponds nor were the trout hitting in the National Forest lake. Probably more to get us out of his hair than anything else, he finally said: "Why don't you try that old pond way back in the National Forest; they say it's stocked with bass, but no one ever fishes it." So it was that we found ourselves walking through the Forest.

In spite of having to listen to three boys complain about the heat and their respective loads of fishing bait and tackle, walking in the National Forest can be refreshing. After we emerged from the pine woods' path, we took a right onto an old ranger trail which led circuitously back into the mountains. Each time the heat seemed too unbearable or the trail just too long or steep, we would come across a shallow creek flowing across the road; falling on our stomachs amid the clatter of fishing rods and banging of tackle boxes, we drank the clear water at each one. And, of course, even without the heat or the slightest upward grade, the three boys needed no encouragement; the thrill of being able to drink from an open stream was enough. Gradually, our walk became less an exercise in who was

to carry the bait or tackle box next and for how long, but in who could discover the next creek, with small trout minnows in every hole and crawfish under leaves and rocks.

Finally, after a 45 minute trek across creeks and up hills, and after many rests during which I had to admit my wariness of any but the most obviously edible berries, we came to a game clearing. There, at the lower edge, almost hidden by reeds, we glimpsed a still pond about 75 yards long by 50 yards wide. How could we fail to catch fish in what we were all sure was virgin water, probably unseen and certainly not fished, at least since the dawn of the National Forest. We crashed through the weeds and began to set up rods and bait hooks. We fished the pond with everything — minnows, nightcrawlers, spinners, rubber worms, and plugs — the results were only a couple of one-pounders. We trudged home, tired, but not completely disappointed, for we did have some fish and we could look forward to quenching our thirst at creeks and nibbling blackberries. And after all, we had caught fish before, but never in an undiscovered pond, one that no one else knew about.

As I found out later, the pond, called the "old Government Pond," was built by WPA workers in the thirties as a watering hole for game. But for us, the pond will always remain a kind of discovery, not because we discovered new and unfished waters, although we have learned the habits of the bass there and caught some nice ones since, but because we discovered that there are still places in Virginia where one can follow a dimly-outlined path, find water in creeks still safe enough to drink, or follow a forest trail where around each new hill or curve there still exists the possibility to find something new. I hope that when my boys grow "up," they will have the opportunity to find a "lost pond" with their own children.



# Virginia's 1977 Game Law Highlights

Portions of the 1977 "Summary of Virginia Game Laws" are reprinted here for your convenience in planning your fall hunting activities. The entire brochure is available from your local hunting license agent. Please obtain a summary and check dates and areas carefully before going hunting.

## IT IS UNLAWFUL TO:

To hunt or trap on another's land without the landowner's permission;  
To hunt with firearms or other weapons on Sunday;  
To hunt while under the influence of intoxicant or narcotic drug;  
To cut den trees or carry an axe with handle over 20 inches long or saw without landowner's permission while hunting;  
To molest eggs, nest, den or young of any wild bird or animal except predatory or undersirable species;  
To use bait or salt as a means of luring game birds or animals to a place where they are to be shot;  
To hunt adjacent to forest fires;  
To shoot or attempt to take any wild bird or animal from any vehicle;  
To hunt quail in the snow;  
To destroy, mutilate, or take down "posted" signs or to deposit litter or trash (hunting license may be revoked for one year upon conviction)  
To possess over the daily limit of any wild bird or animal while in the forests, fields or waters of this state;  
To use live birds or animals to decoy or call game;  
To continue hunting any species after the daily or season bag limit for that species has been obtained;  
To cast a light beyond a roadway upon places used by deer or elk after 10 P.M. from October 1 through March 31, or at anytime while in the possession of a weapon.  
"Hunting and trapping" includes (1) the pursuing, capturing or killing of wild birds and animals, (2) attempting any of the above, and (3) assisting anyone attempting any of the above.

## MILITARY AREAS

Fort Pickett - Deer - November 21-January 5. Two per year, one of which may be a doe on the last six hunting days only. Squirrel - October 15-January 31.

A.P. Hill - Deer on nonimpact areas - November 21-January 5. Two per year, one of which may be a doe on the last three hunting days. Deer on impact areas - November 21-January 5. Two per year, one of which may be a doe on the last eight hunting days. Squirrel - October 1-14, November 14-January 31.

Quantico Marine Reservation - Deer - November 21-January 5. Two per year, one of which may be a doe on the last twelve hunting days. Squirrel - October 1-14, November 14-January 31. No dogs in hunting areas for training or hunting, March 1-Sept. 1. No organized deer drives, or dogs for deer hunting.

## STATE AND NATIONAL FOREST LANDS

### DEER

November 21-January 5. Two per year, one of which may be a doe on the last hunting day. On Amelia, Briery Creek, Hardware River, Horsepen, James River, and Powhatan Wildlife Management Areas, and on Buckingham-Appomattox, Cumberland and

Prince Edward State Forests, and Pocahontas State Forest and Park.

November 21-December 3. Bucks only. On Fairystone Park and WMA, G. Richard Thompson WMA (one per year, No Dogs), Philpott Reservoir, Rapidan WMA (one per year, No Dogs), and Rappahannock WMA (one per year, No Dogs).

Elm Hill WMA--December 11-January 5. All game except waterfowl.

RACCOON - November 1-December 31-on the G. Richard Thompson, Gathright, Highland, Goshen-Little North Mountain and Rapidan WMAs, and on the George Washington National Forest.

GATHRIGHT WILDLIFE MANAGEMENT AREA. Closed to Pheasant and fall turkey hunting.

Hunting with a dog or gun or possessing on person or in a vehicle a strung bow, or a gun which is not unloaded and cased or dismantled, in the national forests and on Commission-owned lands, state forests and on other lands managed by the Commission under cooperative agreement is prohibited except during periods when it is lawful to hunt bear, deer, grouse, pheasant, quail, rabbit, raccoon, squirrel, turkey and/or migratory game birds or by permit issued by the Commission.

It is lawful to hunt doves on national forests and Commission-owned land west of the Blue Ridge Mountains only when dove season coincides with the seasons provided for the above-named game species.

## PRIMITIVE WEAPONS

Hunters using muzzle loading guns (single shot flint lock or side locks percussion weapon) may hunt deer only on the Jefferson National Forest in the counties of Bedford, Botetourt, Craig, Giles (east and north of the New River), Montgomery, Roanoke and Rockbridge; and on the Clinch Mountain, Gathright, G. Richard Thompson and Goshen-Little North Mountain Wildlife Management Areas from November 7-12. Weapons must be at least 45 caliber, fire a single projectile loaded from the muzzle end, and propelled by a minimum of 50 grains of black powder. Telescopic sights are prohibited. The bag limit is one buck with animals to be counted as part of the hunter's license year limit. Muzzle loading pistols may not be used.

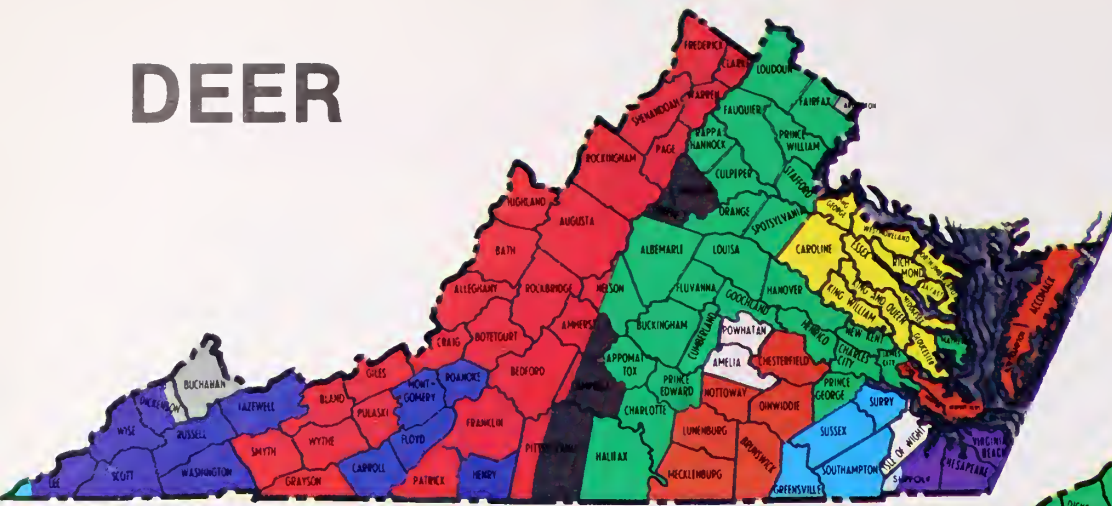
## ARCHERY

Archers may take deer, bear and squirrels from October 8-November 12 in all open counties; and deer west of the Blue Ridge and in the counties of Amherst (west of U.S. Route 29), Bedford, Campbell (west of Southern Railroad), Franklin, Henry, Nelson (west of Route 151, Patrick and Pittsylvania (west of Southern Railroad) from Monday, December 5-January 5. The bag limit is one per day, one per license year (either sex) in open counties with a one deer limit, and one per day, two per year (either sex) in eastern counties with a two deer limit. Game taken during the archery season is to be included in the total permitted for the license year. Regular bag limits apply on bear and squirrel. No bow and arrow on Quantico after sunset.

Bow and arrow is a legal weapon for all species including migratory game birds and may be used during regular seasons as well as the special archery season for deer, bear and squirrel. When hunting deer and bear, archers must use broadhead arrows with blades at least 7/8 inches wide and bows capable of propelling any arrow in their possession 125 yards. Crossbows and poison arrows may not be used. Firearms may not be carried when hunting with bow and arrow during the special season.



# DEER



**November 21-December 3. One per license year, bucks only.** In Carroll, Dickinson, (west of rte 80), Floyd, Henry, Lee, Montgomery, Roanoke, Russell, Scott, Tazewell, Washington and Wise counties.

**November 21-December 3. One a license year, either sex the last day only.** In Alleghany, Amherst (west of U. S. Route 29), Augusta, Bath, Bedford, Bland, Botetourt, Campbell (west of Southern Railroad), Clarke, Craig, Franklin, Frederick, Giles, Grayson, Highland, Nelson (west of Route 151), Page, Patrick, Pittsylvania (west of Southern Railroad), Puleski, Rockbridge, Rockingham, Shenandoah, Smyth, Warren and Wythe.

**November 21-January 5. Two per license year, one of which may be a doe the last 3 hunting days.** In Albemarle, Appomattox, Buckingham, Charles City, Charlotte, Culpeper, Cumberland, Fairfax, Fauquier, Fluvanna, Goochland, Halifax, Hanover, Henrico, James City, Loudoun, Louisa, Mathews, Nelson (east of Rte 151), New Kent, Orange, Prince Edward, Prince George, Prince William, Rappahannock, Spotsylvania and Stafford counties.

**November 10-January 5. Two per license year, one of which may be a doe the last 12 hunting days only.** In Isle of Wight County.

**November 10-January 5. Two per license year, one of which may be a doe the last 3 hunting days only.** Suffolk west of Dismal Swamp line).

**November 21-January 5. Two per license year, one of which may be a doe the last 12 days only.** In Caroline, Essex, Gloucester, King and Queen, King George, King William, Lancaster, Middlesex, Northumberland, Richmond and Westmoreland counties.

**October 1-November 30. Two per license year, one of which may be a doe the last 3 days.** In the cities of Chesapeake, Suffolk (east of the Dismal Swamp Line), and Virginia Beach.

**November 21-January 5. Two per license year, one of which may be a doe on the last hunting day only.** In Amherst (east of U. S. Route 29), Campbell (east of Southern Railroad), Greene, Madison, Pittsylvania (East of Southern R.R.).

**November 21-January 5. Two per license year, one which may be a doe on the last six hunting days only.** In Accomac, Brunswick, Chesterfield, Dinwiddie, Lunenburg, Mecklenburg, Northampton, Nottoway, and York and the cities of Hampton and Newport News.

**November 21-January 5. Two per license year, one of which may be a doe.** In Southampton, Surry, Sussex and Greenville counties.

**Closed.** In Buchanen County, Dickinson County (east of rte 80), parts of Fairfax County and in the City of Arlington.

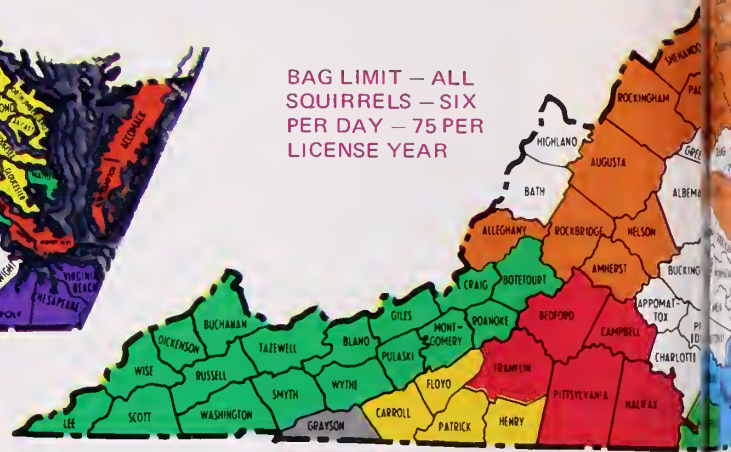
**November 21-January 5. Two per license year, either sex on the last 12 hunting days.** In Amelia, and Powhatan.

**DISMAL SWAMP LINE.** Beginning at a point on Rt. 10 where it intersects the Isle of Wight County line, thence along this highway to its intersection with the corporate limits of Suffolk, thence through Suffolk to its intersection with Rt. 642 (White Marsh Road) and thence along this highway in a southeast direction to Rt. 604 (Desert Road), and thence along this highway to the North Carolina Line.

Daily Bag Limit: 1 deer per hunting day.  
All bucks must have antlers visible above the hair.

# SQUIRREL

**BAG LIMIT - ALL SQUIRRELS - SIX PER DAY - 75 PER LICENSE YEAR**



**FOX SQUIRRELS OPEN ONLY IN COUNTIES WEST OF THE BLUE RIDGE AND IN LOUDOUN, FAIRFAX AND DURING REGULAR SQUIRREL SEASONS LISTED BELOW.**

**November 14-January 31. One per license year, either sex.** In Appomattox, Bath, Bedford, Brunswick, Chesterfield, Cumberland, Dinwiddie, Essex, Gloucester, Hanover, Henrico, Highland, James City, King George, King William, Lancaster, Loudoun, Louisa, Mathews, Nelson, New Kent, Nottoway, Orange, Patrick, Pittsylvania, Prince George, Spotsylvania, Stafford, Surry, Tazewell, Warren, Westmoreland, and York counties.

**September 15-January 31. One per license year, either sex.** In Halifax and Pittsylvania counties.

**September 15-January 31. One per license year, either sex.** In Grayson County.

**September 15-January 31. One per license year, either sex.** In Grayson County.

**October 1-November 30. Two per license year, one of which may be a doe the last 3 days.** In Accomac, Alleghany, Amherst, Appomattox, Bath, Bedford, Brunswick, Chesterfield, Cumberland, Dinwiddie, Essex, Gloucester, Hanover, Henrico, Highland, James City, King George, King William, Lancaster, Loudoun, Louisa, Mathews, Nelson, New Kent, Nottoway, Orange, Patrick, Pittsylvania, Prince George, Spotsylvania, Stafford, Surry, Tazewell, Warren, Westmoreland, and York counties.

**September 15-January 31. One per license year, either sex.** In Accomac, Alleghany, Amherst, Appomattox, Bath, Bedford, Brunswick, Chesterfield, Cumberland, Dinwiddie, Essex, Gloucester, Hanover, Henrico, Highland, James City, King George, King William, Lancaster, Loudoun, Louisa, Mathews, Nelson, New Kent, Nottoway, Orange, Patrick, Pittsylvania, Prince George, Spotsylvania, Stafford, Surry, Tazewell, Warren, Westmoreland, and York counties.

**September 15-January 31. One per license year, either sex.** In Brunswick\*, Dinwiddie, and Mecklenburg counties.

**September 15-January 31. One per license year, either sex.** In Brunswick\*, Dinwiddie, and Mecklenburg counties.

## QUAIL

East of the Blue Ridge-Nov. 14-Feb. 15.  
West of the Blue Ridge-Nov. 14-Jan. 31.  
Bag Limit-8 per day; 125 per license year.

## GROUSE

November 14-January 31  
Statewide - Bag Limit - 2 per day; 10 per license year.

## RABBIT

November 14-January 31  
Statewide - Bag Limit - 6 per day; 75 per license year.

## TURKEY

**ALL OTHER COUNTIES CLOSED**

**November 14-December 31. Two per license year, bearded birds on** Appomattox, Bedford, Brunswick, Buckingham, Campbell, Caroline, Charlotte, Fairfax, Fauquier, Fluvanna, Goochland, Greene, Halifax, King George, King William, Madison, Nelson, Nottoway, Orange, Pittsylvania, Powhatan, Prince Edward, Prince William, and Stafford counties.

**November 14-December 31. Two per license year, one of which may** Augusta, Bath\*, Bland, Botetourt, Clarke, Craig, Frederick, Giles, Grayson, Roanoke, Rockbridge, Rockingham, Russell, Shenandoah, Smyth, Tazewell, Warren, Westmoreland, and York counties.  
\*Except Gathright WMA.





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**November 28-December 31.** In Albemarle, Alleghany, Amherst, Augusta, Bath, Bedford, Botetourt, Craig, Greene, Highland, Madison, Nelson, Page, Rappahannock, Rockbridge, Rockingham and Shenandoah counties. (Dogs not permitted from November 21-December 3).

**November 7-January 5.** In Bland, Giles, Montgomery, Pulaski, Smyth\*, Tazewell\*, Washington\*, and Wythe counties. (Dogs not permitted from November 21-December 3). \*Except on Clinch Mountain and Hidden Valley Wildlife Management Area.


**14-January 31.** In Albemarle, Amelia, Buckingham, Caroline, Charles City, Charlotte, Essex, Fluvanna, Goochland, Greene, Hanover, James City, King and Queen, King William, Loudoun, Orange, Powhatan, Prince Edward, Prince George, Sussex and York counties and in the Hampton, Newport News and Virginia Beach.

**October 15-October 14, November 14-**  **December 5-December 17.** Russell County and Clinch Mountain Wildlife Management Area.

**October 15-October 14, November 14-**  **December 5-December 17.** Russell County and Clinch Mountain Wildlife Management Area.

**October 1-October 14, November 14-**  **December 5-December 17.** Russell County and Clinch Mountain Wildlife Management Area.

**October 1-October 14, November 14-**  **December 5-December 17.** Russell County and Clinch Mountain Wildlife Management Area.

**15-October 14, November**  **November 10-January 5.** In Isle of Wight County and the City of Suffolk west of the Dismal Swamp Line.

15-30, November 14-January 1.

**RACCOON      OPOSSUM**

**14, November 14 - January 31.**      **BAG LIMIT WEST OF THE BLUE**            **HUNTING SEASON**

14, November 14-January 31.  
15, Amherst, Augusta, Clarke, Culpeper, Fairfax, Gloucester, Isle of Wight, King George, Loudoun, Madison, Mathews, Middlesex, Nelson, Northampton, Orange, Page, Prince William, Rappahannock, Stafford, Surry, Tazewell, Warren, Westmoreland, York, and counties in the City of Suffolk.

**HUNTING SEASON**  
Statewide-November 1  
January 31.

**15-30, November 14 - January**  
 Hurt, Buchanan Craig, Dickenson, Giles, Lee,  
 nery, Pulaski, Roanoke, Russell, Scott,  
 ngton, Wise and Wythe counties.

**1-15, November 14-January 31.**  
Greenville, Lunenburg and Southampton

In Albemarle, Amelia, Amherst, Appomattox, Chester, Cumberland, Dinwiddie, Essex, Gloucester, Hanover, James City, King and Queen, Lancaster, Loudoun, Louisa, Lunenburg, Mathews, Middleburg, Northampton, Northumberland, Orange, Orangeburg, Patrick, Petersburg, Stafford, Surry, Sussex, Tazewell, Westmoreland, York, and York County, Virginia, and in the District of Columbia.

hen in the fall. In Allegheny\*,  
land, Montgomery, Page, Pulaski,  
n, Washington and Wythe counties.

## CHASING WITHOUT CAPTURING OR TAKING SEASONS.

**September 1 - March 31.** In Accomack, Albemarle, Amelia, Amherst, Appomattox, Bedford, Brunswick, Buckingham, Campbell, Caroline, Charles City, Charlotte, Chesterfield, Culpeper, Cumberland, Dinwiddie, Fairfax, Fauquier, Fluvanna, Franklin, Gloucester, Goochland, Greene, Greenville, Halifax, Hanover, Henrico, Henry, Isle of Wight, James City, King and Queen, King George, King William, Lancaster, Loudoun, Louisa, Lunenburg, Madison, Mathews, Mecklenburg, Middlesex, Nelson, New Kent, Northampton, Northumberland, Nottoway, Orange, Patrick, Pittsylvania, Powhatan, Prince Edward, Prince George, Prince William, Rappahannock, Richmond, Southampton, Spotsylvania, Stafford, Surry, Sussex, Westmoreland and York counties and in the cities of Arlington, Chesapeake, Hampton, Newport News, Suffolk and Virginia Beach. (See State/National Forest Lands for exceptions).

**October 15 - February 28.** In Allegheny, Augusta, Bath, Clarke, Frederick, Highland, Page, Rockbridge, Rockingham, Shenandoah and Warren counties. (See State Lands and National Forest Lands for exceptions).

**October 15 - January 31.** In Bland, Botetourt, Buchanan, Carroll, Craig, Dickenson, Floyd, Giles, Grayson, Lee, Montgomery, Pulaski, Roanoke, Russell, Scott, Smyth, Tazewell, Washington, Wise and Wythe counties.

**CONTINUOUS OPEN SEASON.** In Essex County for hunting and chasing.



## QUIET STREAM WIPEOUT



By MEL WHITE

I was in a hurry to get out of Alpine Outfitters Shop. It's not that I don't like their place, it's just that my will power goes out the door the minute I walk into a store with back packs, canoes and all those gadgets we outdoorsmen need so badly. I was also in a hurry to get the rented Old Town canoe on the car and down to the river where the

Float Fishermen of Virginia were holding their annual Legislators/VIP Float.

The Float Fishermen had chosen the North Anna River to provide their guests with "new insight into its outstanding value as a unique natural resource." The North Anna is unique in being one of the few rivers that I can think of which have been benefited by the building of a dam. Before the filling of Lake Anna, the river suffered from water washing through mine

tailings at Contrary Creek. This was one source of bad water that caused much of the river to be something of a biological wasteland. Considerable effort and a lake between the pollution and the river's lower section has produced a relatively clean stream with fishing that runs from fair to excellent.

The Float Fishermen and their guests launched a short distance downstream from the dam at mid-morning on Saturday, and were rapidly removed



# Kaleidoscope

from their everyday cares into the green and blue world of the river. The North Anna here is completely tree lined and this day a strip of clear blue sky provided the only glimpse out of the leaf enclosed waterway.

And Water it is! My canoe partner Otis White, III and I hadn't been floating more than half a minute when some untimely gear adjusting and a sneaky ruffle sent us overboard for a look at the canoe from the bottom. Laughing and grabbing for the boat, we continued downstream through quiet water. The fishing on the upper stretches was so-so and soon canoes began to raft-up and give us time to answer our guests questions and explain why we think Virginia's rivers are such an extraordinary natural resource.

It took plenty of resources and some good planning to feed the 120 or so people on the float but it was accomplished with gusto by Tom Evans of Richmond, who was our river chef.

Much of this river, especially at low water, is placid and some of us were ready for more than pretty scenery. Our overnight camp was the site of the old power dam since its sand beaches would provide a good spot for dining and tenting. The river here is blocked by the dam and most of the canoes were portaged around the left end. Those were the people who had read Randy Carter's "Canoeing White Water River Guide" which says,

"Here there is a 10-foot falls concentrated in about 50 feet of severe rapids. At the foot of the rapids is part of the washed-out power plant machinery waiting to spear you or your canoe. Should you upset at the start in the foolhardy attempt to run

this rapid, you could easily be washed against this steel shaft reaching partly across the rapid, or be slammed against the partly submerged large gear wheel. In this extremely fast water you would be pinned against these obstacles for the short rest of your life."

Nevertheless, it was low water and we considered it runnable. I watched R.E.B. Stuart take his canoe through the roaring foam and come out on the other end upright and with a smile on his face. As he turned to look at the admiring crowd, the canoe's bow hit a rock and unceremonially dumped one of Virginia's best canoeists in the drink. Ready to run the rapid, I asked Tom Evans, who had just made the trip, what it was like. The water's fast, he said, it comes up all around you — and makes a sound like a train. We went anyway. With Otis in the bow, I paddled through the flat calm approach

straining for a look at the drop-off. Right, go right! Otis shouted, but it was too late. All I could see was Otis's orange life preserver followed by a blue canoe heading for that infernal machinery. Before I knew it there were four Float Fishermen in the water, grabbing for canoeists and canoe. We were upright in a couple of minutes and running down the remaining stretch of rapid to the campground.

The wipeout left its mark with a few bruises and scrapes, but the North Anna left a stronger and more favorable impression on me. It is almost magic to be able to drop off a busy roadway, get into a canoe, and leave hectic civilization behind to slip into a green and blue world of your own, a world of peace and an occasional bluegill. But alas, even here there is a growing snarling ocean of whitewater waiting to swallow you up if you are not careful.

Game for sale? It was in 1892 when this order was written for rabbits, deer and pheasants. The old form was sent to *Virginia Wildlife* by Francis Geake. Mr. Geake found it in an old building which he was tearing down.

Sales Book 18 Page 19 ESTABLISHED 1872  
Washington, D. C. 1892  
Produce Received  
And Sold for Account of  
By J. F. SAUM & CO.,  
GENERAL COMMISSION MERCHANTS,  
925 Louisiana Avenue, between 9th and 10th Streets, N. W.  
In Flour, Grain, Hay, Straw, Live Stock, Pork, Lard, Butter, Eggs, Poultry, Game, Green and Dried Fruits, Seeds, &c., &c.  
GRAIN SACKS, EGG CASES, WIRE CHICKEN COOPS, WIRE TURKEY COOPS.  
References: Capital Cities National Bank of Washington City

1 Deer	71 5 568
1 dog	3 18 612
1 pheasant	60
1000 Turkey	5219 500
	17 86
	160
	10
	86 568
	1190

Chuck  
Eggs 24 dozen Turkey 11 612  
Many chickens - down along 8670 + amount





## VIRGINIA FEDERATION 12th CONSERVATION AWARDS PROGRAM

The Virginia Wildlife Federation believes that those who work so tirelessly to save and conserve America's priceless natural resources should receive public praise, recognition and appreciation. No nation has been more blessed with natural riches and beauty. No nation can remain strong, its people healthy and happy, its way of life full, rich and meaningful, without wise use, conservation and preservation of those same priceless resources. By recognizing and encouraging conservation leaders the VWF believe America's future can better be secured. **Virginia Wildlife** readers are invited to nominate their favorite conservation leaders for one of this year's conservation awards.

Sponsored by The Virginia Wildlife Federation and Sears Roebuck and Co.

### CATEGORIES

Conservation Educator  
Conservation Organization  
Soil Conservationist  
Water Conservationist

Youth Conservationist  
Conservation Communicator  
Conservationist of the Year

Legislative Conservationist  
Forest Conservationist  
Wildlife Conservationist  
River Conservationist

*Virginia Wildlife Federation*  
INCORPORATED  
**CONSERVATION AWARDS FOR 1977**  
NOMINATION FORM

To make a nomination, send two (2) copies of this form and all attachments to: Conservation Awards Center, P.O. Box 744, Vienna, Va. 22180.

NOMINEE:

RECOMMENDED BY:

NAME \_\_\_\_\_

NAME \_\_\_\_\_

COMPLETE ADDRESS \_\_\_\_\_

TITLE \_\_\_\_\_

AWARD CATEGORY \_\_\_\_\_

COMPLETE ADDRESS \_\_\_\_\_

Please specify one of the eleven categories for which nomination is made. Use a separate nomination form for each award category and for each individual or group nominated.

NAME OF MEMBER CLUB \_\_\_\_\_

DATE \_\_\_\_\_

Please attach two (2) copies of a resume of achievements not to exceed two typed pages. Include organization memberships, affiliations, past achievements, past recognition, specific acts for which recommendation is based, and other references for comparison. A full documentation is needed by the judging committee.

**NOTE: NOMINATIONS MUST BE POSTMARKED NO LATER THAN MIDNIGHT, AUGUST 15, 1977.**



# Personalities

Edited by F. N. Satterlee



RODGER O. ROWE, Game Warden: Westmoreland and Richmond Counties

Rodger was born in a rural part of Gloucester County, Virginia in an area known locally as Guinea Neck. His father was a commercial fisherman who was fond of hunting and fishing, and this interest and fondness for nature "rubbed off" on the boy. He attended Achilles Elementary School and Gloucester High School and he remembers that, even when he was quite young, he found every excuse possible to get outdoors to camp and hunt and to be with nature.

During the summers, while he was growing up, he worked as a waterman, fishing and crabbing, and he also did some farm work, all of which enabled him to be in the outdoors.

Following his graduation from High School, he was employed as an Ordnanceman in the Ammunition and Explosive Department of the Naval Weapons Station in Yorktown, Va. Although he enjoyed his work and was soon promoted to the position of Shop Planner, it was indoors.

Rodger spent six years in the Virginia Air National Guard during the period 1963 to 1969. He received his basic training at Lackland Air Force Base in Texas and his technical training as a jet aircraft mechanic in Amarillo, Texas.

Learning of the fact that the Game Commission was hiring Game Wardens, Rodger applied. He had dreamed of being a warden since childhood but considered the chance of being accepted remote in view of the fact that only 12 positions were open and some 1000 or more applications had been received.

It was at this stage of his life that he was forced to make a major decision for, much to his surprise, he was accepted by the Game Commission and at the same time he learned that he had been promoted to the job of Foreman at the Naval Weapons Station. He chose the Game Warden job and resigned his position in Yorktown. In April of 1973 he became a Commission employee and was assigned as Game Warden for Westmoreland and Richmond counties.

In April of 1977, Chester F. Phelps, Executive Director of the Commission of Game and Inland Fisheries, announced that Rodger had been selected as GAME WARDEN OF THE YEAR. Phelps, in a letter to Rowe, stated that, "in making this decision, we not only considered your outstanding law enforcement but were equally impressed with your public relations work, especially in the field of hunter safety where you trained 2,839 students. In the four short years you have been with us, you have demonstrated an unusual grasp of the Commission's objectives, and your job performance in the day-to-day pursuit of these aims, has established an enviable record." Rowe will attend the annual meeting of the Southeastern Association of Fish and Wildlife Agencies in San Antonio, Texas, in October as Warden Of The Year along with his counterparts from the other states.

Mrs. Rowe is the former Clara Valentine from Goochland County. The Rowe's have two children, Michael (4) and Lisa (2) and they make their home in Montross.



# AL

## The Belted Kingfisher

By CARSTEN AHRENS

**A**l, the belted kingfisher, came noisily, cutcha-cutcha-cutcha up lower Myrtle Creek as though he owned it. Following Al, but making no noise about it, was Meg, Al's new mate. Al alighted for a moment on the dead limb of a great sycamore that overhung Myrtle Falls, so Meg did also. And even though each of them had just caught and eaten a minnow, the next instant Al was over the water, holding himself motionless on rapid wings as he seemed to be looking for fish below. He had gotten there earlier and had reclaimed the one-eighth mile of stream as his for another summer.

Meg studied her mate with evident satisfaction. From his great beak to his short tail, he measured a good 13 inches. He had a huge slate-gray bluish head and belligerent, flaring crest; a powerful, dark bill; and wide shoulders with darker wings and tail dotted and barred with white. A white ring encircled his neck and his undersides would have been all white but for a gray-blue ring that banded his throat. Meg resembled Al except for a second band, a warm, chestnut-brown one below the gray-blue one. The birds were enhanced with a white spot near each eye.

Meg turned her attention from Al to her perch on the dead branch in the Sycamore tree. She approved of this high limb — it would be an ideal

place to use in fishing and eating afterward. She tried several perches along the limb. One noticed she didn't walk but flew from site to site. Kingfishers have odd feet. Most perching birds have three toes forward and one pointing back, and each toe is independent its full length, but with kingfishers the toes are grown together for a third of their length, so their feet sometimes seem a bit unfunctional. They serve for perching if the limb is the right size, but they never walk about like a crow or hop about in robin-fashion.

Many times a day, with a "cutcha-cutcha-cutcha," Al would fall from the limb and be off, asserting his authority over his territory. Kingfishers do not fly with the grace of swallows, yet their flight is adequate for their way of living. When Al sighted a minnow far below, he dropped from his perch, sped forward with rapid beats of his rounded wings, then closed them partly for a short glide, then more and more speed, more glide, then a plunge with a loud splash into the water, up and out of the water again, usually with a fish in his beak! He cannot swim so his time submerged must be brief. If the fish is small, he juggles it about until it is in the right position and swallows it without more ado and the fish is in his crop before he gets back to the dead limb! If the fish is too big to be taken in one "bite," he carries it back to the

perch where he whacks it a few times against an upright spur. It would seem he wants it unconscious when he swallows it.

While Al took care of any possible competition, Meg got busy with a nest. Kingfishers are one of the few birds that tunnel underground. They find a vertical cliff or firm bank and excavate an opening that may run into the earth from 3 to 10 feet. The hole has a diameter of 3 or 4 inches and usually starts about a yard from the cliff's top. The earth is dug loose by the sharp and sturdy beak, and the dirt is shoveled out. The tunnel may angle about, especially if there are obstacles, like stones, in the way. Ultimately, it leads to an enlargement at the inner end which becomes the nest. No attempt is made to enhance the home; the eggs, and there may be as many as 10, are placed on the cold clay. Kingfishers are not good housekeepers. The fish bones and scales left over from rearing a big family along with their droppings are just allowed to accumulate. So by the time Al's last offspring was ready to fly, it was high time to leave the shelter.

Meg was well pleased with the cliff close to the waterfall, considering it a perfect site. Perpendicular and smooth! No mink or weasel could climb to plunder a tunnel nest from above or below. By mid-May the tunnel was finished to Meg's satisfaction and she laid six glossy white



eggs in the enlarged portion of the nest. Here for 16 days, she and Al took turns incubating them.

The young ones were blind, naked, and completely helpless when they cracked the shells, and both old kingfishers soon became day-long anglers to keep the noisy half-dozen princelings satisfied. While most of the food snatched up for the young were minnows, the parents varied the menu with crayfish, amphibians, water insects, and occasionally, a little snake. By July the nest became a little too crowded for them and, one by one, each managed to fly to the dead limb of the sycamore. Moving away from the tunnel didn't solve the food problem but it made feeding the young easier, there was plenty of room and they should have noticed the sweet, fresh air. For almost two weeks the ungainly youngsters called to be fed, but before the month passed, all of them had essayed the feat of plunging into the water and bringing a fish to the old perch. At first it was traumatic, but gradually it became just natural, and it was great fun to eat without waiting for someone else to be fed first!

The family remained together on the sycamore through the rest of the summer and fall. During the day the home base was the dead limb, and at night they moved into the shelter of the leaves of lesser limbs.

Kingfishers are never in a hurry to migrate. As long as their stream remains free of ice, they remain free of the desire to travel. Even after the rest of his family, weary of the cold, left for the South, Al stayed on. The winter proved unusually mild. Myrtle Falls and its stream sang and raced through the winter months, and Al didn't migrate. It was most discouraging to a cocky, young kingfisher who left the balmy lands two weeks early the following spring in order to lay claim to Myrtle Creek, only to find Al already there, going "cutcha-cutcha-cutcha" along the stream.

JULY, 1977





# clouds



*Layered or stretched out stratus cloud (1,600 ft).*



## CLOUD CLASSIFICATION

By WILLIAM D. WEEKES

**C**louds. They are with us everywhere in one form or the other. They visit us almost every day. Through the centuries man has noted the many shapes of clouds, but it wasn't until about 175 years ago, 1803 to be exact, that man began classifying clouds according to certain basic forms.

Luke Howard, an English pharmacist, recognized these forms and classified them by assigning Latin names to them. His classification has survived to this day. Howard called the three basic forms "cumulus" (Latin for "heap"); stratus (Latin for "layer") and "cirrus" (Latin for "hair-like").

Howard later expanded the names to represent various combinations or variations from the three basic forms. He called them (1) cirrocumulus, a high puffy cloud; (2) cirrostratus, a high layered cloud; and (3) a multilayered thundercloud, which Howard called cirrocumulostratus, or nimbus. "Nimbus" means rain cloud and is today referred to as cumulonimbus.

In 1836, a German meteorologist named Kaemtz recognized another form: stratocumulus, a low lumpy layer cloud. The portion of the word called "strato" means layer while "cumulus" refers to lumpy or puffy; hence, stratocumulus.

In 1855, French meteorologist Renou hit on the idea to assign cloud height to cloud classification. This was a valid idea because certain clouds forms are characteristically found at certain altitudes. Cirrus clouds are high clouds. High puffy are cirrocumulus; high layered clouds are cirrostratus; low layered clouds are stratus and if these layers are puffy, they are stratocumulus.

But Renou introduced a third layer where clouds can be found, an intermediate layer. To these intermediate forms Renou assigned the prefix "alto". Altocumulus are puffy intermediate clouds and altostratus are intermediate layer or sheet clouds.

In 1887, a Victorian meteorologist, Ralph Abercrombie, took voyages around the world to confirm that basic cloud forms are found everywhere. Abercrombie reviewed the first comprehensive series of cloud height measurement and published what is endorsed to this day as the 10 principle forms of clouds. Abercrombie not only classified clouds according to height, as did Renou, but, in the case of cumulus and cumulonimbus, on how the cloud was formed.



*Above: Cirrus clouds (40,000 ft) at top of photo, Altocumulus clouds (6,500 ft) at bottom of photo. Below left: Cirrocumulus "mackerel sky" (40,000 ft). Below Right: Characteristic cloudlets of altocumulus (6,500 ft).*



*Below: Stratocumulus clouds (4,000 ft). This cloud formation occurs when cumulus clouds stretch out.*







*Above: Puffy cumulus clouds (1,600 ft). Below: Upper right of photo shows cirrocumulus clouds (40,000 ft); Altocumulus clouds (6,500 ft) are shown in center of photo; while the bottom clouds are stratocumulus (4,000 ft).*

The highest clouds are the three cirri-form clouds: cirrus, cirrostratus and cirrocumulus. The cirrus clouds are mainly formed by dense heads from which fall streaks or tails so producing hooks or banners. These clouds are frequently blown about into feathery strands called "mare's tails."

Cirrus clouds are described as detached wisps, hairlike (fibrous) or delicate filaments, patches, or narrow bands. Cirrostratus clouds form in transparent sheets that look like fine, whitish veils or torn, windblown patches of gauze. Because they are made of ice crystals, they form large halos or luminous circles around the sun and moon.

Cirrocumulus is the mackerel sky cloud form (look similar to strips on back of the mackerel). They are high heaped clouds ranged together in sheets of dappled rippled appearance. These are the lowest of the highest clouds and are rarely seen.

Altostratus, one of the middle clouds, forms a gray or bluish cloud sheet or layer of striated or fibrous, or uniform appearance, covering all or part of the sky. The sun or moon does not form a halo, as with higher, ice-crystal cirrostratus, but its appearance is as if seen through frosted glass.

Altocumulus is often seen as an extensive sheet of regularly arranged cloud-lets, white and gray and somewhat rounded. These white clumps roll across the sky, sometimes in a parallel band.

The low-lying clouds, those 6500 feet in altitude or less, are the stratocumulus, nimbostratus and stratus. They also include the verticle, upright cumuliform clouds: the cumulus and their stormy big brothers, the cumulonimbus.

The lowest of the clouds is the stratus. Stratus forms lie as low uniform sheets with the base above ground. Dull-gray



*Below: Great thunderhead cumulonimbus (1,600—40,000 ft).*



stratus clouds often make a heavy leaden sky. Nimbostratus are true rain clouds. They are darker than ordinary stratus. They have a wet look and streaks of rain often extend from them to the ground. Nimbostratus often forms from a lowering and thickening altostratus, in which case the base is quite high. Most often it is a low cloud form.

Stratocumulus is a flattened version of the low altitude cumulus cloud. It represents a breakup of the stratus cloud. They are irregular masses of clouds spread out in a rolling puffy layer. The low individual masses show up as cylindrical, cigar-shaped rolls. The masses are dark gray on the shaded sides, but white on the illuminated sides.

Cumulus clouds are the smallest clouds. They have rounded tops and flattened bases. They are puffy, cauliflower-like. Their shapes are constantly changing. Over land, cumulus usually forms by day in rising warm air. They form at a level representing the saturation temperature for the air. They are usually clouds which evaporate as rapidly as they are being formed. The cumulus grows by mixing over its upper surface with the air into which it is advancing. The cloud becomes visible when it ascends above the condensation level.

Cumulus clouds mean fair weather unless they pile up into cumulostratus. Precipitation rarely occurs with cumulus clouds, but if it does, it is of a light showery type.

Cumulus is often a transition to cumulonimbus, which is the great thunderhead familiar during the summer. The bases of cumulonimbus almost touch the ground. Violent updrafts may carry the tops of cumulonimbus into a flat anvil-like form. These clouds may extend up to 60,000 feet, thereby occupying all three altitudinal zones at once.



# DEER FENCE

By HAL W. MYERS, JR.

**A**long with the increased size of the deer herd in Virginia, the record deer kills, the many hours of hunting recreation provided, and the number of satisfied hunters, there is also a problem. This problem consists of deer damage to agricultural crops, orchards, nurseries, plant beds, and various types of gardens. Quite often this damage results in a sizeable financial loss to the owner. Hunting seasons and bag limits have been enacted to maintain desirable deer populations that the land owner can tolerate and at the same time provide good hunting. However, even with more liberal seasons that normally control the populations, there continue to be problem areas. A good example is a farmer with damage who is surrounded by land-owners who post their land against deer hunting and do not allow enough females to be harvested, thereby equalizing the herd.

Many research studies in past years have shown that different types of repellents and sound devices repel deer, but not in all situations. There has also been research on different types of fences that have proven to be successful in turning deer. In most instances, these fences have not been practical because they are difficult to construct and expensive.

The use of the electric fence for control of livestock has increased rapidly in recent years. The reason being that they are economical, less difficult to erect, and are effective. For livestock, one strand of wire is normally used and they can be operated by two types of controllers or boxes: the battery type controller that operates from a 6-volt battery and the controller that operates from 110-volt alternating current. The 110-volt controller provides a "hotter" type fence along with more dependable service.

For deer control the one wire or simple constructed electric type fence is not effective. However, specially designed electric fences have been tested by Virginia Commission of Game and Inland Fisheries biologists and have proven to be successful in reducing or eliminating deer damage in gardens, crops and orchards.

A simple three strand electric fence was constructed around an eight acre section of a tree and shrub nursery in Prince Edward County in May of 1975. Prior to construction of the fence, deer had caused damage to young trees and shrubs by both browsing and rubbing.

There were numerous tracks present in the area as evidence that deer were responsible for the damage. Once the fence was installed, damage was reduced to a minimum within the enclosure. For the control, an unfenced section of the nursery of equal size was selected to compare results of deer damage and utilization inside and outside of the fenced area. Regular checks were made of both areas and the control area continued to be utilized by deer. In mid summer, one particular section of the control area which was infested with morning glory and ragweed weed showed heavy browse by deer. A similar fence was constructed around this area near the end of July and was charged by hooking onto the adjacent eight acre fence. This fence proved about 100 percent effective in reducing browse.

From the encouraging results of these two enclosures, the owner fenced a total of forty acres for nursery purposes in the fall of 1975. Because of the increased size of the area an additional controller was added to keep the desired voltage on the fence. The cost for fencing the entire 40 acres was approximately \$585, which included the cost of the controllers, wire, treated post, labor and other necessary material.

*In areas not protected by fences the blackeyed pea crop was partially destroyed by deer that browsed and trampled the plants.*





In order to further check the effectiveness of this type fence, it was tested on a blackeyed pea planting in Appomattox County during the summer of 1976. The purpose of this study was to give this type fence a thorough trial in a location where deer have been responsible for damage to a vegetable garden for a number of years. A plot of 0.5 acre in size was selected and seeded to peas in mid June. Peas were used for the study because they are a preferred deer food and also in past years many gardeners had complained of the loss of their pea crops. Usually the heaviest damage comes when the pea pods start to develop and mature.

During this study, a constant check was made of the planting during the growing season. There were numerous tracks found in the plot at all times, but except for occasional browse to the foliage there was no appreciable damage to the vines for the first six weeks. On July 21st, an electric fence was installed around one half of the planting, leaving a 20-foot border of peas on three sides and a larger area of peas open on the fourth side (this was close to a dwelling). The fence was not charged at this time and the deer went through it and continued to have complete use of the entire area. As the peas were starting to develop pods and as damage increased, the fence was charged on August 11th. From this date until the end of the study, which was October 15th when all vines were dried up, there was no sign of deer within the fenced enclosure. No tracks, no browse, nothing except just good old blackeyed peas. However, outside the enclosure, things were different. All of the pea pods and most of the foliage were browsed by deer. The only peas harvested by the owner were from within the fenced area, which

*In the test area, blackeyed peas that were protected from marauding deer grew healthy and plump.*



in this situation proved to be 100 percent effective in controlling deer.

In construction, three strands of 12 or 14-gauge, smooth type, galvanized wire is recommended. Posts spaced approximately 30' apart can be of either metal or wood with 5 feet extending above ground level. Corner posts need to be braced properly and all posts must be placed deep enough in the soil to hold wires securely. Measuring from the ground, the bottom wire is attached 18 inches up on the post. The second wire is spaced 18 inches up from the bottom wire, and the third wire another 18 inches higher. This results in a fence that is 54 inches high from ground level to the top wire. Either plastic or porcelain insulators can be used. The porcelain insulator is recommended, as the wire can be wrapped around the insulator when needed and does not cut through to cause shorting out when pressure is applied. All three wires are charged with a controller (or box) that operates from 110 volts which must be properly grounded. An electric fence tester is also recommended for checking the fence to assure that it is operating properly. The ground underneath the fence has to be mowed and maintained to prevent electrical short circuits or grounds caused by growing vegetation. Spring type gate hooks can be used for access into the fenced area. It is also recommended that the fence be set away from the area to be cultivated to allow for the operation of equipment.

This type fence is not designed to be completely deer proof, as shown from the distance (18 inches) in spacing of the wires. With the spacings being this wide, the deer have a tendency to crawl through and get shocked rather than jump over. As was found in the nursery experiment, occasionally a deer will go through, especially if excited, as when pursued by dogs. When this happens, observations have shown that they do not linger in the enclosure and seldom stop long enough to consider browsing. Their trail, once inside, usually leads straight to the opposite side of the fence where escape is by going through or over the wire.

With this control technique, emphasis is placed on the expense involved and ease of construction. Many land owners already have an electric controller that is used in their livestock operations. Most likely they have a supply of posts or even surplus wire that can be used, which are the main items to consider except for the labor involved in construction. Due to the current changes in prices of fencing material, no exact cost figures are attempted on any particular size area to be fenced. There are all types of electric controller boxes available in the price range from \$20.00 to \$60.00 at the time of this writing. No. 14 gauge galvanized wire is quoted at \$27.00 per 100 pound spool and there are approximately 5,800 feet to a spool. One spool will string a lot of fence that has proved so far to control deer damage in four areas that measured 40 acres, 8 acres, 1 acre, and 0.5 acre in size.



# Growing Up Outdoors

Edited by Gail Hackman

## BETTER OFF WILD

"Grandpa Hooty! Grandpa Hooty!" Steve and Brenda called as they clattered up onto the porch of the weathered old house. "Grandpa Hooty! Look what we've got!"

The two children stopped, out of breath on the porch, holding between them a cardboard carton.

The screen door opened and Grandpa Hooty stepped out into the sunshine. "Well, you crazy coots, what have you got there?" inquired the old man.

"We found this baby raccoon and we didn't see its mother," Steve explained. "We don't want it to die, so we're going to take it home and feed it and make it our pet."

"We'll be its parents," said Brenda excitedly.

"Whooa, doggies," said Grandpa Hooty, looking into the carton. "Now, you just don't go around making wild things house pets, you know."

"We'll just keep it till it grows up," said Brenda.

"But then it may be too late," said

Grandpa Hooty. "You see, unless a baby animal has a chance to learn how to catch its own food, and hide from its enemies, it will never be able to live in the wild. And those are things you can't teach it."

"Also, as wild animals become older they become just that--wild. They are destructive and can be vicious because their wild nature comes out. Then, you have to keep them caged up. By that time, of course, you can't put it back in the woods. The animal might starve to death because it won't know how to find its own food. Or worse yet the animal will be easy prey for predators and won't even stand a chance because it won't know how to use its natural defenses."

That's why the law says it's illegal to keep a wild animal in captivity. It's not just against the written law, though. It's against the laws of nature. Besides, how do you know that Ol' Mamma Raccoon wasn't just out getting food for the baby?

Nature has been cranking along a heckuva long time without our butting in to mess it up and make an animal's life miserable because we think he's cute. Animals that talk,

think, cry, fall deeply in love and all that is just made up stuff, like Superman and Wonder Woman, who are not real people at all."

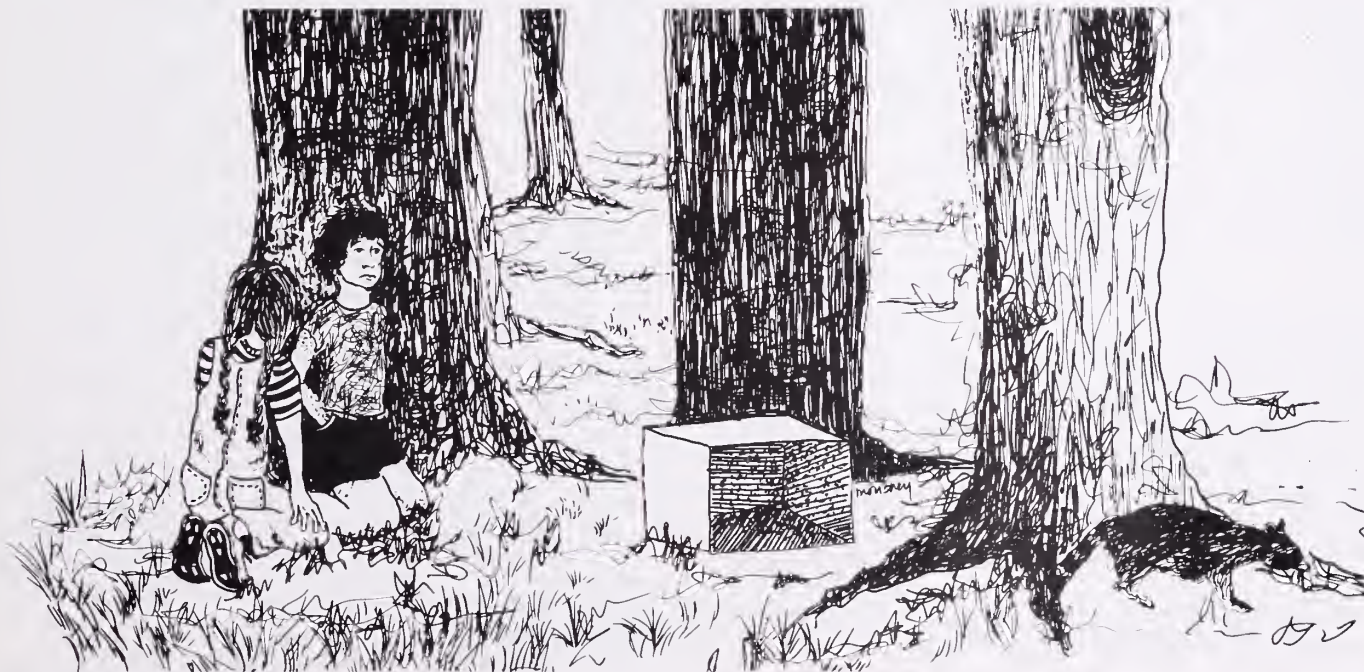
Brenda and Steve looked at each other. "Grandpa Hooty, can we take the raccoon back now, before it's too late?"

"Sure, come along, I'll go with you." The trio returned through the woods to the place where they first picked up the baby raccoon. They placed the cardboard carton over on its side and moved back so the baby animal would come out. After a few minutes the tiny creature scampered out and away into the brush, hiding itself.

The next morning at breakfast Brenda and Steve's father said, "Did you hear anything scrabbling around the trash cans last night?" The two children shook their heads.

"All the trash was spilled out. I think we had a couple of raccoons visiting us, looking for food."

Brenda and Steve looked at each other and grinned. Maybe, just maybe it was the mother of their little raccoon, looking for a special treat to take to the baby she thought she'd lost.





# IT APPEARS TO ME

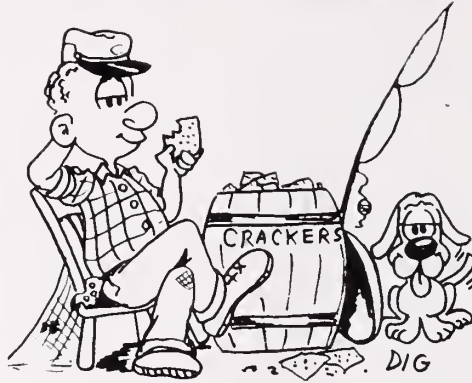
## BY CURLY

... A PERSON OUGHT TO HAVE ONE!

The folks up in the Michigan Department of Natural Resources have fetched-up a six-page booklet called Facts About Wildlife Conservation which speaks to the subject of the science, art and general principles of the business. For those of you interested these people will send you one free if you send them a *stamped*, self-addressed envelope. Drop them a line. . . Mich. Department of Natural Resources, Box 30028, Lansing, Michigan 48909.

Just in case some of you might be heading down Tennessee-way to do a little fishing this summer you might be interested in knowing that the Tennessee Valley Authority has a free book that you might find interesting and useful. It seems that fishing (and catching) around steam plants in the TVA has been really great of late. The fact is that these people want to share some of their secrets with fisherpeople from other parts of the country, and for free, it's right neighborly. The item that they have come up with is a brochure about sport fishing at Colbert, Cumberland, John Sevier, Gallatin and Kingston Steam Plants. They have called it Fishing Around TVA Steam Plants (that makes sense doesn't it?) and it lists the peak fishing seasons for each of some 25 species that hang around such places. The brochure is for free by writing Information Services, Tennessee Valley Authority, Division of Forestry, Fisheries and Wildlife Development, Norris, Tennessee 37828.

TEACHERS!! If you can spare me just a minute I think that I have some



valuable information for you that may enable you to keep one step ahead of your students (or at least remain even with them) on the subject of energy. The Energy Research and Development Administration or (ERDA, for short) now has a 325-page teacher's guide on *Energy Conservation in The Home*. Designed to enable you as teachers to bring the students up to date with the current thinking on ways to conserve energy in the management of a household, it zeros-in on, but is not limited at all to the economics aspects. Single copies are available free to you TEACHERS if you will write a note on school letter-head stationery to ERDA Technical Information Center, P.O. Box 62, Oak Ridge, Tennessee 37830.

### ...FOR YOUR BOOK SHELF

One of the best bargains, book-wise, that I have seen in more than just awhile is a fresh off the press hard cover done cooperatively by the International Association of Fish and Wildlife Agencies, the United States Fish and Wildlife Service and a number of individuals and organizations. Management of Migratory Shore and Upland Game Birds of North America is a slick-papered 358 pager which was edited by Glen C. Sanderson, fore-worded by Earle Frye, Jr. a past president of the

IAFWA and with a comprehensive opening "statement" by Lynn A. Greenwalt, Director of the U.S. Fish and Wildlife Services. More than five years in the making, this splendid publication includes the work of more than 50 authors, calls one's attention to a group of migratory birds with which most of us are not all that familiar and provides a platform of basic knowledge from which even the beginners in the business of being concerned with wildlife can take off to do their thing. . . and do it well!! Probably the most amazing thing about this highly technical but easily understood volume is its price, ONE DOLLAR. That's correct \$1.00. Send your checks or money orders to International Association of Fish and Wildlife Agencies, 11412 16th St. N.W. Washington, D.C. 20036.

With summer now here and the urge to travel welling up in our subconscious selves (I wear mine on my sleeve) all us just have to keep in mind the conservation of energy *and the price of gasoline*. Jane Ockershausen Smith has recently authored a dandy bit of diversion along those very lines entitled The One Day Trip Book. Within the 168 pages of this soft cover, Smith has packed, packaged and prescribed what she calls 101 offbeat excursions in and around Washington, D. C. With emphasis on the importance, convenience and common sense of an easily accomplished one day divergence she adroitly furnishes all the necessary information to make your outing outstanding and nearly effortless. The One Day Trip Book is available for \$4.95 + \$.75 for mailing from EPM Publications, Box 442, McLean, Virginia 22101.



# Indian Paintbrush

By ELIZABETH MURRAY

Illustrated by Lucile Walton

Some flowers capture our attention by the striking beauty, not of the flowers, but of some other part of the plant. Modified leaves called *bracts* may look like large, showy blooms, while the flowers themselves, contained within the bracts, may be small and unremarkable. In the Indian paintbrush both the bracts and the tips of the upper leaves are brilliantly colored, usually bright scarlet.

*Castilleja*, usually known as Indian paintbrush or painted-cup, is a large genus found mostly in the west. However, we do have one good representative in the east, *Castilleja coccinea*. The generally unbranched flower stalk rises from a basal rosette of simple, oval leaves and grows 1-2 feet high. The alternating stem leaves are divided into 3 or 5 lobes. They are pale green, stemless, have parallel veins and may be slightly hairy. The upper leaves, as well as the floral bracts, have bright red tips as if they had been dipped into a pot of vermilion paint. The irregular, tubular flowers are concealed within the bracts. The greenish-yellow corolla has a long, narrow, arched upper lip, a short three-lobed lower lip and is surrounded by a two-lobed green or scarlet calyx which is in turn encircled by the three-lobed scarlet bracts. There are four unequal stamens and a long pistil set within the upper lip of the corolla.

Our *Castilleja* grows in low, damp meadows and open thickets where the soil is peaty or sandy. It blooms mostly in June and July but may sometimes be found as early as April and as late as August. Like so many members of its family, the Scrophulariaceae or figworts, it is a partial parasite. Although it does have green leaves, it depends also for nourishment on the roots of certain grasses with which its own roots form a close association. Because of the difficulty of duplicating this association, Indian paintbrush is very hard to transplant, and it is better to leave it alone.

Indian paintbrush has really stimulated the imagination of name-givers, and has been endowed with a great array of common names such as red-Indians, wickawee, election-posies, bloody warrior and nose-bleed. The generic name *Castilleja* refers to the Spanish botanist Domingo Castillejo to whom the flower was dedicated in 1781. *Coccinea* means scarlet.

In the west, the genus blossoms, literally and figuratively. There are about 40 species, many of them forming great carpets of color in the prairies and Rocky



Mountain states. *Castilleja linariaefolia*, the narrowleaf painted-cup, has a yellow corolla offsetting the red or salmon-pink calyx and bracts. In *Castilleja lauta*, found in Colorado and Montana, the bracts are purple and the corollas yellow, while the squawfeather of Colorado and Texas, *C. integra*, has rose-colored bracts. In *C. chromosa*, the bracts are scarlet and the corollas yellow, and in the Californian species *C. foliolosa* the bracts are red but not quite so showy since the whole plant is covered with a dense pubescence.

There is a hazard, from a farmer's point of view, in having a fine stand of Indian paintbrush in the pasture. Normally the plant is not poisonous and can be ingested by stock. If however, the soil contains selenium, this will be taken up cumulatively by the *Castilleja* plants which will then become toxic to grazing animals. There are cases on record in the west where farmers have been put out of business by this rather unusual agricultural misfortune.

Luckily we do not have enough *Castilleja* in the east for this to be a problem. And how fortunate we are that the one species we do have is such an attractive one.





By JOHN W. TAYLOR

Odd of shape, but with unusual grace and beauty, the avocet cannot fail to attract immediate attention. Not even the most disinterested could miss noticing this gangly creature, boldly patterned in russet, white and black, with long upturned bill. Surprising that it is not more celebrated in art and literature.

Such lack of acclaim could be due to its rarity — at least in the eastern states. Though it once bred sparingly along the Atlantic coast, it was wiped out during the days of unrestricted gunning. From 1900 through the 1950's the Avocet was virtually unknown along the Atlantic. Dr. J. J. Murray, in his *Check List of Virginia Birds*, lists but five occurrences in Virginia from 1925 through 1951.

Since that period there has been a slow recovery. Now summering birds are regular, though in small numbers, in New Jersey and on the Delmarva peninsula. They can be seen, as well, in favored locations along the lower James River. Now, with full protection accorded, the avocet may return to some of its former haunts.

Since the avocet is fastidious in its requirements, proper habitat is essential for its return. It needs broad stretches of shallow water in which to conduct feeding operations, and low-lying islands or mudflats for nesting. Artificial impoundments, such as those created as waterfowl refuges, are ideal. Look for avocets at Chincoteague and Bombay Hook Refuges on the Eastern Shore.

The avocet belongs to a cosmopolitan species group, with representatives widely separated in North and South America, Europe, Africa and Australia. All are quite alike in structure and habit, but quite different in coloration. Birds found in Eurasia and Africa are black and white; North American and Australian avocets have the head and neck richly tinted with orange and brown. These bright colors are lost during the molting sequence, and winter plumage is pale and drab.

The term "avocet" is derived from the Italian *avocetta*, the original meaning of which is unknown. In French, it became "Avocette." It has been suggested that the term is related to *Avis*, Latin for bird, with a suffix suggesting gracefulness.



# On The Waterfront

Edited by Jim Kerrick

## VALUE OF BOAT COVERS

A good cover is "must" protection for any boat and motor. This is particularly true on boats that see a lot of trailering action. Many boaters scoff at covers but leaving the fine interiors of today's boats exposed to flying debris and other hazards of the highway is simply unwise.

It is true that boat interiors are made to withstand moisture. But if that moisture comes in the form of rain while a boat is being trailered at 50 mph, the interior ends up taking a real bombardment.

Additionally a boat cover provides security of a sort for whatever gear you may store in your boat. While it certainly is not "thief proof," a cover acts as a deterrent to thieves by keeping your possessions out of sight. It's somewhat comparable to putting packages inside your car's trunk (out of sight) or just putting them in the back seat (where they can be seen and pilfered).

When you choose a cover for your boat, you don't have to give up good looks and don't have to fret about the difficulty you'll have putting it on and taking it off. Modern boat covers come in a variety of colors, styles and materials. Closely woven cotton canvas covers have a natural water resistance and are treated with a water repellent chemical for further protection. Another advantage to the cotton type is its ability to "breathe." That means water can't condense at the underside. A cover that holds moisture can do more damage than leaving a boat uncovered.

Your marine dealer can order standard cut covers for most boat models or you can outfit your boat with a custom made cover. When properly fitted the cover should go

on easily and obviously come off just as easily.

A good boat and the equipment it carries deserves the protection afforded by a cover. And if you should happen to dock in an open slip the cover will keep the interior dry on those damp mornings.

## OVERLOADING

Everyone has heard of the straw that broke the camel's back. Pleasure craft can be overloaded also. Common sense demands that boat owners make sure they know their craft's capacity and never exceed the weight capacity printed on the capacity plate on most boats.

It is very simple. Just take a couple of seconds to check the plate for recommendations and if you feel that the weight of the passengers, gasoline, gear and other items on the boat exceed the weight listing on the capacity plate, someone or something should be left behind. Most weight recommendations are for that boat under normal operating conditions. If your boat does not have a capacity plate your marine dealer can in most cases tell you what the safe load for your boat is.

## EQUIPMENT

Going boating without the proper equipment is not just foolish it is also against the law. There must be one Coast Guard Approved Personal Flotation Device for each person on board. Ski belts do not and I repeat do not meet State or Coast Guard requirements for approved equipment. The amount of equipment that you are required to have on your boat varies with the size of your boat. Check your Motorboat Owners Guide to be sure that your boat

meets all state and federal requirements.

Other items of equipment that are recommended to have on board but not required by law are an anchor, anchor line and extra line, paddle, first aid kit, flashlight, fenders, tool kit, compass, flares and extra fuel for an emergency.

## FOR SAFE BOATING MAKE SWIMMING A FIRST

Of the millions of people who go afloat each year, only those who have the confidence and personal lifesaving talent which the ability to swim well provides enjoy boating the most and without care and concern.

Be certain you are ready for boating before going aboard.

- a. Know how to swim so you'll not be a sure goner if you fall overboard.
- b. Learn how to survive when you unexpectedly find yourself in the drink.
- c. Acquire basic personal lifesaving skills so you can not only save yourself but can also be of assistance to your friends who might suffer the same misfortune.
- d. Learn to stay with the boat in the case of capsizing and swamping.
- e. Make your clothing serve as survival gear by knowing how to use it for emergency flotation.

If you are not now prepared by being a good swimmer take the necessary steps to qualify as a good swimmer by taking advantage of the instructional opportunities afforded by organizations such as the YMCA's, Red Cross Chapters, Scout Camps and other facilities.

There is no need to become a boating fatality "statistic."





# KNOW the GREAT OUTDOORS

NOW PLAYING IN THE OUTDOOR THEATRE

by Gil Emerson

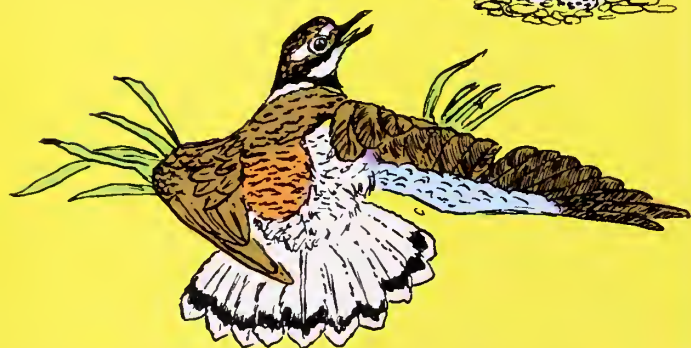
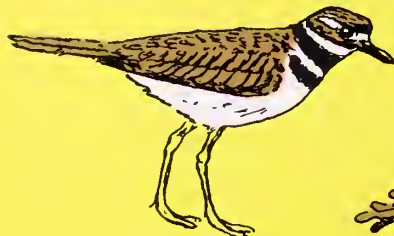
Play: "Poor Mrs. Killdeer"

Scene: Nesting season in most of 48 states; open field.

Stars: Mrs. Killdeer; "Villain" — dog, horse, could be you.

Act I — When the "Villain" approaches her nest she first attempts to mislead him by running a few feet from the real nest and with a bit of over-acting pretends to settle down on a fake nest.

Act II — This failing to divert the villain's attention she goes into her finest scene. Suddenly she becomes badly "crippled" a broken wing is dragged; feathers are ruffled; she cries piteously. The villain thinks he can easily catch her but as he comes close she recovers only to be "stricken" again a little farther from her nest.



Play: "The Great Bluff"

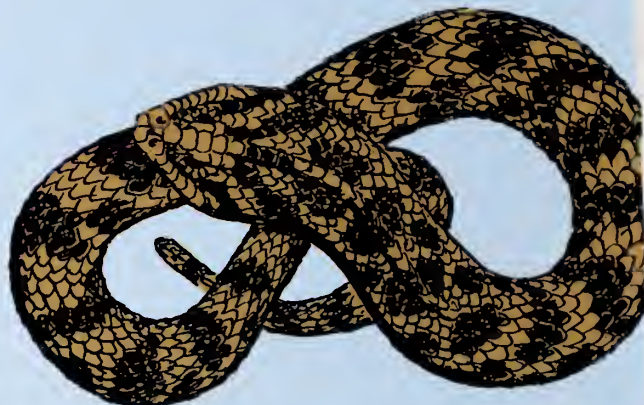
Scene: Warm weather. Eastern or western variety found in most of the 48 states.

Star: Hognose Snake

Act I - Although Hognose is really quite a harmless fellow he pretends to be very vicious. He hisses, strikes (with mouth closed) spreads and flattens head and body to look more threatening.

Act II - If touched, even lightly, he goes into the death scene. With "convulsions" he twists and rolls over on his back, "dead."

Critic's Comment: Evidently Hognose doesn't know that dead snakes do not necessarily lay belly up nor that they don't die again everytime they are righted.



Of course, the most famous death scene is played by the opossum. Once I rescued one that had been so mauled by dogs that there could be no doubt. . . he was dead. His eyes and mouth were full of dirt, yet he moved not a muscle. I left him for dead. When I returned to give him a decent burial, he was gone leaving only his tracks. The opossum lives in the eastern half of the 48 states and is now spreading into the west.